

# SOUTHEASTERN BIOLOGY



Volume 60

April, 2013

Number 2

## ASB 74<sup>TH</sup> ANNUAL MEETING

ASB

APRIL 10-13, 2013

ASB

Marshall University, Huntington, WV

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Meeting Site: Charleston Civic Center  
Charleston, West Virginia

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The Fountain at night.

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The Association of Southeastern Biologists, Inc.  
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## **SOUTHEASTERN BIOLOGY**

(ISSN 1533-8436)

*SOUTHEASTERN BIOLOGY* (ISSN 1533-8436) is published online quarterly in January, April, July, and October by the Association of Southeastern Biologists, Inc., P.O. Box 276, Elon, NC 27244-0276. Please send address changes to the *SOUTHEASTERN BIOLOGY* business manager, Tim Atkinson, Assoc. of SEB, P.O. Box 276, Elon, NC 27244-0276.

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### **PURPOSE**

The purpose of this association shall be to promote the advancement of biology as a science by encouraging research, the imparting of knowledge, the application of knowledge to the solution of biological problems, and the preservation of biological resources. The ASB has representation in Section G Committee of the AAAS. Varying types of membership are available to individuals and institutions. See inside back cover.

### **TIME AND PLACE OF FUTURE MEETINGS**

2013 April 10-13: Hosted by Marshall University, Huntington, WV. Meeting site is the Charleston Civic Center, Charleston, WV.

2014 April 2-5: Spartanburg, SC. Meeting site TBA.

2015 April 1-4: Hosted by the University of Tennessee at Chattanooga. Meeting site is the Convention Center at the Marriott.

## THE VIEW FROM HERE

### A MESSAGE FROM THE PRESIDENT

DONALD H. ROUSH

As our 2013 meeting approaches and my term as President comes to an end, many thoughts come to mind. First, I am excited about all the great symposia and workshops that are to be conducted in addition to the papers and posters being presented at the meeting this spring. These presentations represent the hard work of many individuals and I hope you will find the time to attend as many as you are able. Much effort has been made to provide interesting and varied field trips and I encourage you to select a trip that expands your knowledge of the West Virginia environs since this is the first time for ASB to meet in West Virginia.



As a result of ongoing health issues and compounded by computer glitches, I have had to rely heavily on several individuals for much of this past year. I am so very grateful for their willingness to step up and for the excellent work they have done. In addition to all the extensive work done by our convention planner Scott Jewell, I must also single out the work of Pat Cox our past president and Tim Atkinson ASB Treasurer. The amount of time Tim Atkinson devotes to ASB is truly amazing, above and beyond his position with Carolina Biological Supply Company. His efforts are always to the betterment of ASB. Pat Cox also has been of great help even with health issues of her own. Her work with the "ASB Ladies" in organizing and conducting the ASB silent auction has added a new dimension and excitement to the exhibits and booths. John Herr is another stalwart assistant always willing to lend his guidance from his many wonderful and productive years with ASB. His memory and his role as ASB Archivist have been of extensive usefulness during my two years as President. Lastly, I would like to thank Zack Murrell the incoming President. He came forward to assist me in so many ways that are too numerous to detail here. His willingness to help and shoulder the work and to keep me in the loop has been remarkable and I cannot thank him enough. Without the assistance of these key people and others on the Executive Committee, ASB would not be the great organization it is.

As I write this last "View From Here", the country is focused on many of the same issues I wrote about in my first View. The issues on money, debt, budget cuts are again facing many of our members. Money for travel is again a major problem. Institutions have cut travel money awarding funds only to those that are making presentations at the meeting. Some are limiting funds allowing travel only to major national meetings. This obviously hurts ASB. Many of our attendees pay their own way and registration fees and I thank these loyal ASB members for

their ongoing support. Even with all these obstacles, the early report is that we may again have 800+ in attendance at the Charleston meeting.

The conversion of Southeastern Biology to an online publication is complete and large strides have been made to get our second journal Eastern Biologist up and going online. The volunteers for the editorial board are in place and a call for papers for the first issue is in progress. Much of this success is due to the hard work of Joey Shaw and Ashley Morris of the ASB Publications Committee and Joerg-Henner Lotze and the team at Eagle Hill, the publishers of SENA. Through the efforts of Ashley Morris ASB Web Editor a new procedure will be available using a smart phone App to view the program and other items concerning ASB thus reducing the associated costs of printed copies. For those wishing a hard copy, they are still available at a reasonable cost.

As my term ends, many changes have occurred and old issues have died away. Our new annual meeting arrangement committee is beginning to function and will need some fine tuning as we use this committee and ASB convention planner Scott Jewell for future meetings. A new process involving the ASB archivist and how that position functions will be addressed at the ASB business meeting to give us a smoother transition into the future. The second official ASB journal Eastern Biologist will grow and become equally as successful as SENA. In the not too distant future you the members of ASB will be surveyed to give data to the Executive Committee that will allow for better governance and direction as ASB moves forward. To say the least I have been honored and humbled to serve as ASB President. I am just one of many that work to make ASB a meaningful organization. Your incoming President Zach Murrell will do an excellent job over the next two years and I look forward to continuing my service as the Past President. My biggest desire is that when asked to serve ASB in some capacity that you agree to do so. It is with your volunteering that ASB will continue. It is with your assistance that ASB will grow in stature and prominence and play a leadership role in science, science education and science policy for the east and southeastern region of the United States.

Humbly and sincerely,

Donald H. Roush, President

# **ASB CANDIDATES FOR OFFICE—2013**

The Nominating Committee composed of Patricia B. Cox (Chair), W. Michael Dennis, and Patricia Parr has selected the following slate of nominees for the ASB offices to be filled in 2013. Voting will take place at the annual business meeting which begins on Friday morning, April 12, 2013. Additional nominations will be accepted from the floor before voting is conducted. Please plan to attend and vote. Elections can sometimes be close. Therefore, your vote could make a difference on who gets elected to office.

<i>Vice President</i>	<b>Joey Shaw</b>	University of Tennessee Chattanooga, Tennessee
	<b>Victoria L. Turgeon</b>	Furman University Greenville, South Carolina
<i>Secretary</i>	<b>Sarah Marie Noble</b>	University of Mobile Mobile, Alabama

## *Executive Committee*

### *Members-at-Large*

<b>Leon S. Jernigan</b>	University of North Carolina Pembroke, North Carolina
<b>Margaret J. Kovach</b>	University of Tennessee Chattanooga, Tennessee
<b>Edgar B. Lickey</b>	Bridgewater University Bridgewater, Virginia
<b>Conley K. McMullen</b>	James Madison University Harrisonburg, Virginia



Dr. Joey Shaw



Dr. Victoria Turgeon



Dr. Sarah Marie Noble



Dr. Leon S. Jernigan



Dr. Margaret J. Kovach



Dr. Edgar B. Lickey



Dr. Conley K. McMullen

## VICE PRESIDENT

**Joey Shaw** – Dr. Shaw is a University Foundation Associate Professor and Graduate Coordinator in the Department of Biological and Environmental Sciences at the University of Tennessee at Chattanooga. He was recognized by his College for Outstanding Research in 2010 and by the Board of Governors as the UT Alumni Outstanding Teacher for 2011. Joey received a B.S. in Biology from the University of Tennessee at Chattanooga (1998). He continued his education at the University of Tennessee, Knoxville where he received a M.S. in Botany (2001) under the direction of Dr. B.E. Wofford (and Drs. P. Cox and D.K. Smith) and a Ph.D. in Botany in 2005 under the direction of Dr. Randy Small (and Drs. E.E. Schilling and J. Wilson). Since beginning his professorship at UTC in 2005, he has graduated nine graduate students and mentored numerous undergraduate students through independent botanical studies – both in the lab and in the field. Students in his lab group have worked on botanical projects from floras to sensitive species monitoring to molecular based phylogenetic and phylogeographic studies. Joey teaches Plant Morphology, Plant Taxonomy, Evolution, Biogeography, Environmental Genetics, and freshman Biology. His research foci are split between the fields of plant molecular systematics, especially of the genus *Prunus* (Rosaceae), and field studies. He is currently working with several collaborators and students on the vegetation and flora of the Ocoee River Gorge in Tennessee and as a series of separate projects, the flora, vegetation, and non-native invasive species of the Tennessee Army National Guard military bases. Joey not only teaches biology and botany in the classroom, but he has served as a volunteer trip leader for 15 years at the Annual Spring Wildflower Pilgrimage in the Great Smoky Mountains National Park. He has served as an editor for Southeastern Naturalist and as member-at-large for ASB for the last three years; during this service he served on and then chaired the field trip, student travel award, and publication committees. He is a life member of ASB and has attended every meeting since his first one in 1999. Joey continues the tradition of his mentors, by bringing several students with him to each annual ASB meeting.

**Victoria L. Turgeon** – Dr. Turgeon is a Professor at Furman University. She holds a B.A. in Biology from Randolph-Macon Woman's College, and a Ph.D. in Neurobiology & Anatomy from Wake Forest University. She teaches a variety of courses including cell biology, comparative anatomy and embryology, human anatomy, microanatomy, and women in science. Her research is focused on understanding the role of the Protease-Activated Receptor-1 (PAR-1) in the development of neurons and glia. While at Furman, she has been the recipient of the Alester G. Furman Jr. and Janie Earle Furman Meritorious Teaching Award, the HHMI Distinguished Mentor Award, and the SCICU Excellence in Teaching Award. Currently, she serves as the faculty sponsor for *IMPULSE* a journal for the publication of undergraduate research in neuroscience. She has been a member of ASB since 1999 and has served on the Poster Awards Committee, Women and Minorities in Science Committee, Human Diversity Committee, and was a member of the Organizing Committee for the annual ASB meeting last co-hosted by Wofford and Furman University.

## SECRETARY

**Sarah Marie Noble** – Dr. Noble has been a member of the Association of Southeastern Biologists since becoming involved as a graduate student in April 2001, and has been a Life Member since 2008. She earned a B.S. in Botany from Northern Arizona University, Flagstaff, AZ; an M.S. in Botany, studying bryology under the direction of Dr. D.K. Smith, at the University of Tennessee, Knoxville, TN; and a Ph.D. in Biological Sciences, studying phycology under the direction of Dr. Juan M. Lopez-Bautista, at the University of Alabama, Tuscaloosa, AL. Currently, Dr. Noble serves as Assistant Professor of Biology in the Department of Natural Sciences at the University of Mobile, a position she has held since 2008. She serves as Liaison to Dauphin Island Sea Lab, teaches freshman Biology, Marine Biology, Limnology, and Field Botany, and guides undergraduates through independent research projects. Her current research involves the bryoflora of the Limestone Hills region of Alabama and Mississippi. For the past thirteen years she has been a walk leader for the Great Smoky Mountains Annual Spring Wildflower Pilgrimage. She has served on the ASB Poster Awards Committee, and currently serves as Chair of the ASB Membership Benefits Committee.

## EXECUTIVE COMMITTEE MEMBERS-AT-LARGE

**Leon S. Jernigan, Jr.** – Dr. Jernigan is currently an Associate Professor of Biology at the University of North Carolina at Pembroke, NC, where he has been a faculty member since 2002. As the Coordinator for the Environmental Science degree program, his teaching interests include field botany, ornithology, ecology, environmental science, and environmental law. His research interests focus primarily on coastal ecosystems and freshwater wetlands. Dr. Jernigan received his B.S. in biology from Campbell University, where he first became interested in birds. He received his M.S. in zoology from North Carolina State University with a thesis on the “Nesting Habitat and Breeding Populations of the Least Tern (*Sterna albifrons*) in North Carolina”. He later received his Ph.D. in botany from North Carolina State University with a dissertation on the distributional pattern of *Juncus roemerianus* in North Carolina. Upon completion of his graduate degrees, he was self-employed as an environmental consultant dealing mainly with wetland delineations/permitting/mitigation, endangered species surveys, and Phase I risk assessments

**Margaret J. Kovach** – Dr. Kovach is a University Foundation Professor in the Department of Biological and Environmental Sciences at the University of Tennessee at Chattanooga. Margaret received a B.S. in Microbiology (1987) from Southern Illinois University at Carbondale and a Ph.D. in Molecular Biology (1995) from Colorado State University in Fort Collins, CO. She conducted postdoctoral research at Brown University and the SIU School of Medicine before joining the faculty at UTC in 2002. At UTC, Margaret enjoys teaching Introductory Genetics, Molecular Genetics, Virology and Research Methods. Her research focus is primarily in the field of mammalian genomics. Specifically, Margaret is investigating typical and atypical mechanisms of gene regulation involved in the

molecular pathogenesis of cancer and hereditary deafness. She received the College of Arts and Sciences Outstanding Research Award (2004) and Outstanding Advisor Award (2007) from UTC and was recognized by the Board of Governors as the UT Alumni Outstanding Teacher for 2010. She is a life member of ASB, Beta Beta Beta and the Sigma Xi Research Society. A strong advocate of undergraduate research, her students have been presenting their research at the ASB annual meeting since 2006.

**Edgar B. Lickey** – Dr. Lickey earned his B.S. in Biology from St. Andrews Presbyterian College, an M.S. in Biology from Appalachian State University, and the Ph.D. in Botany from the University of Tennessee, Knoxville. Since fall of 2007, Ed has been at Bridgewater College where he is an Associate Professor. The courses he teaches are general biology, botany, plant taxonomy, biogeography, summer flora, winter ecology, and economic botany, as well as manages the herbarium (BDWR) and greenhouse. Dr. Lickey's current research interests include taxonomy, systematics, and biogeography of both vascular plants and basidiomycete fungi and everything from species inventories of natural areas to molecular analysis. Ed has been a member of both ASB and SABS since 1994 and the SHC since 2007. Currently for SABS and SHC, he is an executive council member at large and serves as chair of the SABS student presentation awards committee. Past service includes service on the SABS Nominations Committee, Southeastern Section BSA Student Presentation Award Committee, and chair of the ASB Graduate Student Support Award Committee.

**Conley K. McMullen** – Dr. McMullen is Professor of Biology at James Madison University in Harrisonburg, Virginia. He received his B.S. (Biology) from Eastern Mennonite College, his M.S. (Biology) from JMU, and his Ph.D. (Botany) from the University of Maryland at College Park. At JMU, he teaches introductory biology and four upper division plant courses, is director of the herbarium (JMUH), serves on the Edith J. Carrier Arboretum Advisory Board, and chairs the arboretum botanical committee. His research interests are focused on the eastern U.S. and the Galápagos Islands (floristics, systematics, pollination biology). He has spoken widely and authored numerous scientific papers on these topics, including his book *Flowering Plants of the Galápagos*. He has served on the Flora Advisory Board for the Flora of Virginia Project, is a member of the Virginia Flora Committee, and for many years has been a group leader at the West Virginia Wildflower Pilgrimage. He is a Life Member of the Association of Southeastern Biologists, the Southern Appalachian Botanical Society, and Virginia Academy of Science. He has served ASB as Secretary, and as a member of the Executive Committee and the Graduate Student Support Award Committee; served SABS as President and as a member of the Executive Council, Public Interest Committee, Bartholomew Award Committee, Core Student Award Committee, and Planning Committee; and served VAS as Secretary. He is also a member of the American Society of Plant Taxonomists, the Botanical Society of America, and the Society of Herbarium Curators (Executive Board member, Editor of *The Vasculum*). Additionally, he is an Honorary Research Associate of the Brooklyn Botanic Garden, a member of the Science Advisory Board of Galápagos Conservancy, an elected Fellow of The Linnean Society of London, and an elected Governing Member of the Charles Darwin Foundation for the Galápagos Islands. *c3*

# 74<sup>th</sup> Annual Meeting Program of the Association of Southeastern Biologists



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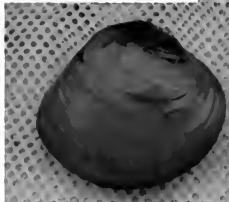
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## Program Committee for 2013 ASB Meetings

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**Members:** Riccardo Fiorillo  
Georgia Gwinnett College

Christopher Brown  
Georgia Gwinnett College

Zack Murrell  
Appalachian State University

The program committee wishes to thank Mark Suggs, Appalachian State University Learning Technology Services, for his help in creating the abstract submission form and for assistance with the formatting of this document. We also thank Chris Fleming, from BDY-Environmental, for creating the Mobile App that enables members to search the program on mobile devices. Finally, we express our sincere appreciation to Ashley Morris, Middle Tennessee State University, for her excellent maintenance of the ASB webpage.



## Welcome from Marshall University



The Old Main Building on the campus of Marshall University, Huntington, WV.

An advertisement for Marshall University. The background features a close-up of a microscope slide with several microorganisms, possibly algae or bacteria, visible under magnification. In the upper right, there is a circular petri dish containing a bacterial culture. Overlaid on the image is a large, stylized, handwritten-style text that reads "Find your passion. Pursue your Dreams!" in a flowing, cursive font. Below this text is the Marshall University logo, which consists of a large, bold letter 'M' with the word "MARSHALL" written vertically through its center. At the bottom of the advertisement, the university's website and phone number are listed: "www.marshall.edu | 1.877.GO HERD1".

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## Exhibitors at 2013 ASB Meetings



**ASB Wishes to Thank The Continuous Support of the  
2013 Patrons and Exhibitors!**

<b>Booth #</b>	<b>Charleston Patrons and Exhibitors</b>
202	A2Z Convention Services, LLC-Patron
304	AST Environmental-Patron
201	Academia Book Exhibits
308	Animal Welfare Institute
300, 302	Associated Microscope-Patron
203,205	Association of Southeastern Biologists
306	Beta Beta Beta
No Booth	Breedlove, Dennis & Associates-Patron
101	Biopac Systems, Inc
207	Carolina Biological Supply Company-Patron
No Booth	Cengage Learning-Patron
200	Conviron
105, 107	eScience Labs
103	Marshall University
100	Martin Microscope-Patron
No Booth	Marilyn Pendley-Patron
106	Percival Scientific
No Booth	Southeastern Naturalist-Patron
104	Southern Appalachian Botanical Society
102	Spartanburg Convention & Visitors Bureau/Spartanburg Marriott
No Booth	Tim Atkinson-Patron
204, 206	Vashaw Scientific
108, 109	Whatdidyoubringme?
No Booth	Dwayne Wise, PhD

## **Registration Hours-ASB**

**Wednesday, April 10, 2013**  
**11am - 9pm**

**Thursday, April 11, 2013**  
**7am – 7pm**

**Friday, April 12, 2013**  
**7am-2pm**

## **Enrichment Fund Challenge**

**Make a donation to the enrichment fund of \$1 or more at the Registration Desk and receive a special Enrichment Fund ribbon to wear on your badge! A \$25 or more donation will enter you in the \$100 cash drawing to be given away at the Friday Night Awards Banquet!**

## **Exhibit Hall Hours**

### **Wednesday, April 10, 2013**

9am - 4pm      Exhibitor Move-In  
12noon-2pm      Exhibitor Pizza Party-Exhibitors Only

### **Thursday, April 11, 2013**

8am – 5pm      Exhibits Open

### **Friday, April 12, 2013**

9am-2pm      Exhibits Open  
2pm-4pm      Exhibitor Move-Out

## Symposium

8:30 am – noon      Friday, April 12<sup>th</sup>      Parlor D

**Chair: Ashley Morris**

### **Symposium: Workflows and Challenges in the Digitization of Biological Specimens**

ASB and iDigBio are proud to co-sponsor this symposium and Saturday's workshop on the digitization of biological collections. Integrated Digitized Biocollections, or iDigBio, is the national resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by the National Science Foundation. While the effort to digitize museum collections has gone on for quite some time, many of us are either just being exposed to this or are working with collaborators to develop new Thematic Collections Networks (TCNs) or Partner to Existing Networks (PENs) in our own disciplines. The methodology used and technologies employed to digitize a collection vary widely across groups, and the reasons for choosing one over another may not be obvious to those of us who are new to the effort. This symposium featuring speakers from existing TCNs and future TCNs, followed by Saturday's workshop on workflows, will inform a large number of individuals from diverse disciplinary backgrounds in a short period of time. Our goals are to inform and educate both novice and experienced digitizers, while building a support network such efforts.

## Workshops

10:30 am – 12:00 pm      Thursday April 11<sup>th</sup>      Parlor C

### **Martin Microscope Workshop: Digital Microscopy: Consumer DSLR's versus Dedicated Microscope Camera**

In this workshop, we will cover using and choosing a digital camera for the microscope. We will look at a digital SLR (Canon EOS), a routine microscope camera, and a research grade microscope camera.

1:30 pm – 3:00 pm      Thursday April 11<sup>th</sup>      Parlor C

### **ASB Professional Workshop: Biopac Student Laboratory Workshop**

This workshop will focus on human, animal and in vitro life science data acquisition & analysis. NEW! Rich multi-media lessons include videos, images, and example data to guide students, demonstrate difficult procedures, display curriculum materials, and more! Intuitive, flexible, and robust data acquisition increases student comprehension and makes labs run smoothly.  
Website: [www.biopac.com](http://www.biopac.com)

## Workshops (continued)

**3:30 pm – 5:00 pm      Thursday April 11<sup>th</sup>      Parlor C**  
**eScience Labs: Comprehensive Lab Kits for Online Science Courses**

Come learn how eScience Labs' comprehensive lab kits can help you increase lab science offerings by moving extra sections online. eScience's complete kits will allow you to target new students, increase enrollment, and relieve lab congestion. Let us help you improve your online course offerings today! <http://www.esciencecelabs.com/>

**8:30 am – 11:30 am      Friday April 12<sup>th</sup>      West Virginia Room 105**

### **Workshop: Vision and Change Leadership Fellows: Transforming Undergraduate Life Sciences**

**Presenters:** Judy Awong-Taylor, Georgia Gwinnett College; Melanie Lee-Brown, Guilford College; Ellen Goldey, Wofford College; April Hill, University of Richmond; Nitya Jacob, Oxford College of Emory University; Cynthia Peterson, University of Tennessee; Karen Aguirre, Coastal Carolina University, and Jo Anne Powell-Coffman, Iowa State University.

A national effort is underway to transform the way life sciences are taught in this country at the undergraduate level, how academic departments support faculty, and how curricular decisions are made. Come hear more about PULSE (Partnership for Undergraduate Life Sciences Education), a collaborative effort funded by NSF, NIH, and HHMI to catalyze change in undergraduate life science education. As part of this effort, 40 Vision and Change Leadership Fellows were selected and charged with inspiring and helping departments undertake the work of transforming their programs, as called for in *Vision and Change in Undergraduate Biology Education: A Call to Action*. Using insights, feedback, and contributions from the life science community (through the PULSE website <http://www.pulsecommunity.org/>), the work of the Fellows is to help develop and implement the framework for systemic change. This interactive session will be facilitated by several Vision and Change Leadership Fellows and will focus on some of the models that are currently being developed. Departments are encouraged to bring a team of faculty, students and administrators.

**8:30 am – 5:00 pm      Saturday, April 13<sup>th</sup>      Parlor D**  
**Chair: Ashley Morris**

### **Workshop: Workflows and Challenges in the Digitization of Biological Specimens**

Saturday's workshop is modeled after the iDigBio DROID (Developing Robust Object-to-Image-to-Data) workshop. Developing an efficient workflow that works across collaborative institutions seems to be one of the biggest challenges to

scaling up of digitization efforts. The target audience will be one of diverse taxonomic backgrounds, such that the workshop will emphasize best practices that are broadly applicable. Speakers from Friday's Symposium will also participate in the workshop, providing insight into workflow design and implementation. Gil Nelson and Deb Paul (iDigBio) will work with Ashley Morris (MTSU) and Hank Bart (Tulane University) to lead participants in this effort.<sup>c3</sup>

## ACADEMIC POSITION ANNOUNCEMENTS

The University of North Alabama (UNA) is accepting applications for a tenure-track Assistant Professor position in the Department of Biology commencing in August 2013. Candidates must have a Ph.D. in biology (ABD considered for temporary appointment at instructor level); have excellent oral and writing skills; and be qualified to teach a variety of courses. Teaching duties will include both lectures and laboratories, primarily in human anatomy and physiology, with additional courses in introductory biology, and possibilities for upper division courses in the candidate's area of expertise. Area of research specialization is open, but preference may be given to individuals whose background complements the expertise of current faculty. Excellence in teaching, research, and service is expected, and research activities involving students are highly encouraged. Research and publication are required for tenure and promotion. UNA is a fully accredited comprehensive regional university with an enrollment of over 7,000 students in four major colleges: Arts and Sciences, Business, Education and Human Sciences, and Nursing & Allied Health. The Department of Biology offers options in cellular and molecular biology, environmental biology, general biology, professional biology, and a major in marine biology. Salary is commensurate with qualifications and experience. Review of application materials will begin immediately and continue until the position is filled. To apply for this position, please visit our Online Employment System at <http://jobs.una.edu>. Applications will only be accepted through this system. For questions, please e-mail [employment@una.edu](mailto:employment@una.edu) or call 256.765.4291. UNA is an equal opportunity employer committed to achieving excellence and strength through diversity. UNA seeks a wide range of applicants for this position so that one of our core values, ethnic and cultural diversity, will be affirmed.<sup>c3</sup>

The University of North Alabama (UNA) is accepting applications for a non-tenure-track Instructor position in the Department of Biology commencing in August 2013. The preferred candidate will have a Master's degree with at least 18 graduate hours in the discipline; have excellent oral and writing skills; and have interest and skill in teaching introductory biology courses. Teaching duties will include both lectures and laboratories in introductory biology. Additional duties will include coordination of laboratories for BI 102, Introductory Biology. UNA is a fully accredited comprehensive regional university with an enrollment of over 7,000 students in four major colleges—Arts and Sciences, Business, Education and Human Sciences, and Nursing & Allied Health. The Department of Biology offers options in cellular and molecular biology, environmental biology, general biology, professional biology, and a major in marine biology. Salary is commensurate with qualifications and experience. Review of application materials will begin immediately and continue until the position is filled. Apply online at <https://jobs.una.edu/applicants/jsp/shared/frameset/Frameset.jsp?time=1360013967640>.<sup>c3</sup>

## Meeting-At-A-Glance

**- All Meeting Functions Are Held at the Charleston Civic Center  
Unless Otherwise Specified-**  
**Wednesday, April 10**

<u>Day/Time</u>	<u>Event</u>	<u>Location</u>
9 am – 4 pm	Exhibitor Move-in	South Hall
11 am – 9 pm	Registration Open	South Hall
11 am – 2 pm	Exhibitor Pizza Lunch (exhibitors only)	South Hall
Noon – 10 pm	PowerPoint and Preview Check	Room 206
1 pm – 6 pm	ASB Executive Committee Mtg.	Room 202
1 pm – 6 pm	SABS Executive Council Mtg.	Room 203
12 noon-10 pm	Shuttle Bus Service	to/from Embassy Suites
7:30 pm – 9 pm	Welcome Social and Plenary Speaker	West Virginia 105

**Plenary Speaker:** Dr. Meredith Blackwell  
(Professor, Louisiana State University)  
*Fungi That Fly: Fungi and Their Associations  
with Insects*

9 pm – 10:30 pm	<b>Plenary Welcoming Session</b> (must have ticket to attend)	Rooms 202-205
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### **Thursday, April 11**

7 am – 12 midnight	Shuttle Bus Service	to/from Embassy Suites
7 am – 7 pm	Registration Open	South Hall
7 am – 5 pm	PowerPoint and Preview Check	South Hall
7 am – 8:30 am	ASB Past President's Breakfast	Parlor A
7 am – 8 am	ASB Poster Sessions I & 2 Setup (1-120)	South Hall
8 am – 5 pm	Exhibits Open	South Hall
8 am – 5:30 pm	Posters on Exhibit	South Hall
8:30 am – 9:30 am	<b>ASB Paper Presentations</b> Genetics and Cell Biology A Floristics and Plant Systematics A Community Ecology A Freshwater Ecology A Conservation Biology A Ecosystems	Room 207-208 Room 202 Room 203 Room 204 Room 205 Room 206

## Thursday, April 11

<u>Day/Time</u>	<u>Event</u>	<u>Location</u>
8 am – 5 pm	<b>ASB Poster Sessions 1 &amp; 2</b>	South Hall
<b>9:30 – 10:30 am</b>	<b>Break –</b> <b>Visit Posters and Exhibits</b> <b>Presenters of odd numbered posters must be present between 9:30 am and 10:30 am</b> <b>No oral presentations at this time</b>	South Hall
9:30 am	Thursday Huntington Museum of Art Tour	Depart from Embassy Suites
10:30 am – noon	<b>Martin Microscope Workshop:</b> Digital Microscopy: Consumer DSLP's versus Dedicated Microscope Camera	Parlor C
10:30 am – noon	<b>ASB Paper Presentations</b> Genetics and Cell Biology A Floristics & Plant Systematics A Community Ecology A Freshwater Ecology A Conservation Biology A Ecosystems A	Room 207-208 Room 202 Room 203 Room 204 Room 205 Room 206
noon – 5 pm	<b>β β β Field Trip</b>	Depart From Embassy Suites
noon – 1:30 pm	<b>Lunch</b> (Individuals and Organizations) Box Lunch (pre-order only with ticket) See Program for other lunch options Human Diversity Luncheon SWS South Atlantic Chapter Luncheon SHC SE Chapter Luncheon	South Hall Parlor D Parlor A Parlor B
1:30 pm – 3 pm	<b>ASB Professional Workshop:</b> Biopac Student Laboratory Workshop	Parlor C
1:30 pm – 2:30 pm	<b>ASB Paper Presentations</b> Genetics and Cell Biology B Floristics and Plant Systematics B Community Ecology B Freshwater Ecology B Conservation Biology B Ecosystems B	Room 207-208 Room 202 Room 203 Room 204 Room 205 Room 206
1:30 pm – 5 pm	<b>ASB Poster Sessions 1 &amp; 2</b>	South Hall
<b>2:30 pm – 3:30 pm</b>	<b>Break – Visit Posters and Exhibits</b> <b>Presenters of even numbered posters must be present between 2:30 pm and 3:30 pm</b> <b>No oral presentations at this time</b>	South Hall

**Thursday, April 11**

<u>Day/Time</u>	<u>Event</u>	<u>Location</u>
3:30 pm – 5:00 pm	<b>ASB Professional Workshop:</b> eScience Labs: Comprehensive Lab Kits for Online Science Courses	Parlor C
3:30 pm – 5:00 pm	<b>ASB Paper Presentations</b> Genetics and Cell Biology B Floristics and Plant Systematics B Community Ecology B Freshwater Ecology B Conservation Biology B Ecosystems B Poster removal	Room 207-208 Room 202 Room 203 Room 204 Room 205 Room 206 South Hall
5:30 – 6 pm		
6 pm – 8 pm	<b>Thursday Night Social -- Buffet Dinner</b>	North Hall
8 pm – 11 pm	<b>Thursday Night Social</b> <i>If The Big Boy Is Movin' Then The Party Is Groovin'</i>	North Hall

**Friday, April 12**

7 am – 11 pm	Shuttle Bus Service	to/from Embassy Suites
7 am – 2 pm	Registration Open	South Hall
7 am – 5 pm	PowerPoint Check and Preview	Room 209
7 am – 8:30 am	SABS/BSA Breakfast	Parlor A
7 am – 8:30 am	ASB Patrons and Exhibitors Breakfast	Parlor B
7 am – 8 am	ASB Poster Session 3 and β β β Poster Session Setup (Posters 121-167)	South Hall
8 am – 6 pm	β β β Officers & Judges Room	Room 205
8:30 am-11:30 am	<b>Vision and Change Leadership Fellows:</b> Transforming Undergraduate Life Sciences	West Virginia 105
8:30 am – 9:30 am	<b>Symposium: Workflows and Challenges in the Digitization of Biological Specimens</b>	Parlor D

**Friday, April 12**

8:30 am – 9:45 am	<b>ASB Paper Presentations</b> Microbiology Floristics and Plant Systematics C Community Ecology C Entomology/Invertebrates Exhibit Hours	Room 206 Room 202 Room 203 Room 204 South Hall
9 am – 2 pm	<b>β β β Joint Business Meeting</b>	West Virginia 104
9 am – 11 am	<b>ASB Poster Session 3</b>	South Hall
9 am – 4 pm	<b>β β β Poster Presentations</b>	South Hall
9:30 am – noon		

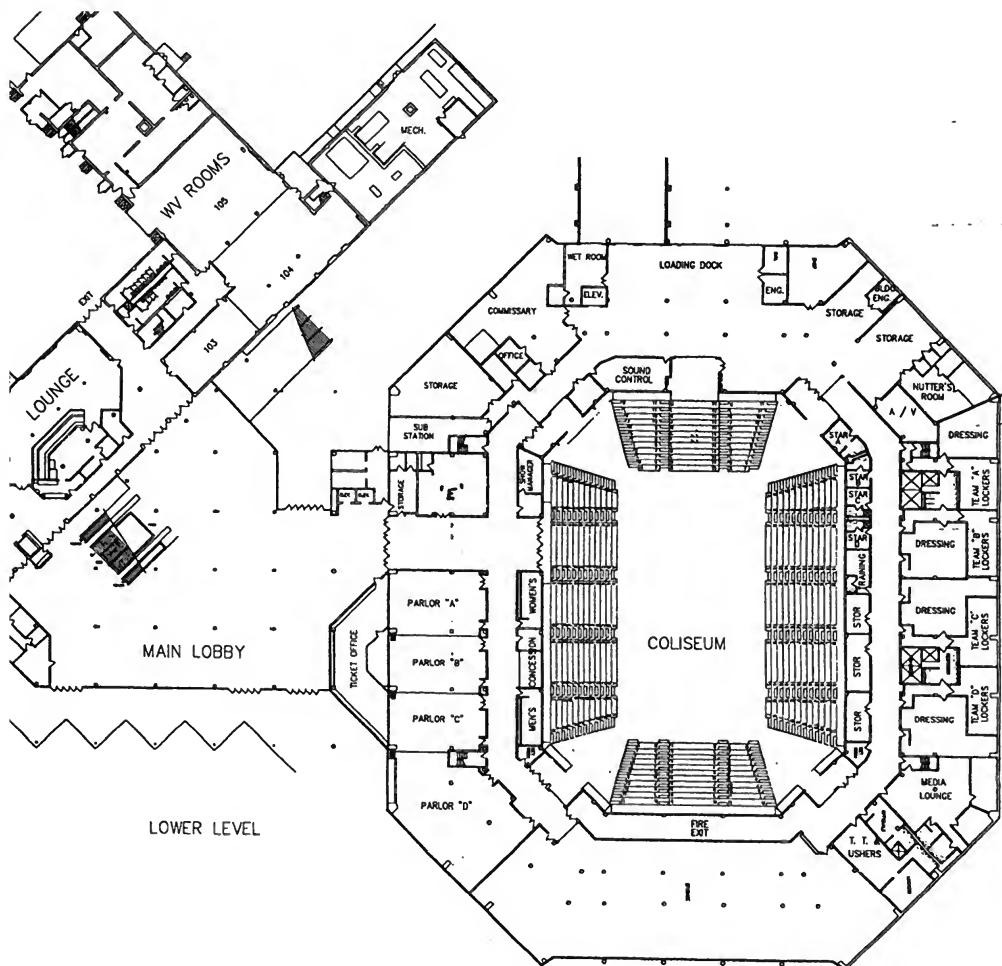
## **Friday, April 12**

<u>Day/Time</u>	<u>Event</u>	<u>Location</u>
<b>9:45 am – 10:30 am</b>	<b>Break – Visit Posters and Exhibits (ASB Posters 121-167) Presenters must be present from 9:45 am to 10:30 am No oral presentations at this time</b>	South Hall
10 am – 11 am	SHC Executive Board Meeting	Room 208
10:30 am - noon	<b>ASB Paper Presentations</b> Microbiology Floristics and Plant Systematics C Community Ecology C Entomology/Invertebrates	Room 206 Room 202 Room 203 Room 204
<b>Noon – 12:30 pm</b>	<b>ASB Business Meeting</b>	Parlor D
<b>12:30 pm – 1:30 pm</b>	<b>Lunch</b> (Individuals and Organizations) Box Lunch (pre-order only with ticket) See Program for other lunch options ESA Luncheon and Business Mtg. Education Committee Luncheon	South Hall Parlor A Parlor B
<b>1 pm – 4 pm</b>	<b>β β β Paper Presentations</b>	West Virginia Rooms 103,104,105
<b>1:30 pm – 2:30 pm</b>	<b>ASB Paper Presentations</b> Scholarship of Teaching Floristics or Systematics D Physiological and Population Ecology Ichthyology and Herpetology	Room 204 Room 202 Room 206 Room 203
<b>2:30 pm – 3:00 pm</b>	<b>Break– Visit Posters and Exhibits</b>	South Hall
<b>Friday, April 12</b>		
<b>3:00 pm – 4:45 pm</b>	<b>ASB Paper Presentations</b> Scholarship of Teaching Floristics or Systematics D Physiological and Population Ecology Ichthyology and Herpetology	Room 204 Room 202 Room 206 Room 203
<b>4 pm – 6 pm</b>	<b>β β β Joint Session and Awards</b>	West Virginia 105
<b>4 pm – 5:30 pm</b>	<b>SABS/BSA Botany Students Reception</b>	Parlor A
<b>5 pm – 6 pm</b>	ASB and β β β Poster Removal	South Hall
<b>5 pm – 6 pm</b>	SHC Business Meeting	Room 209
<b>7 pm – 9:30 pm</b>	<b>Awards Banquet</b> Dinner and Presentation of Awards	North Hall

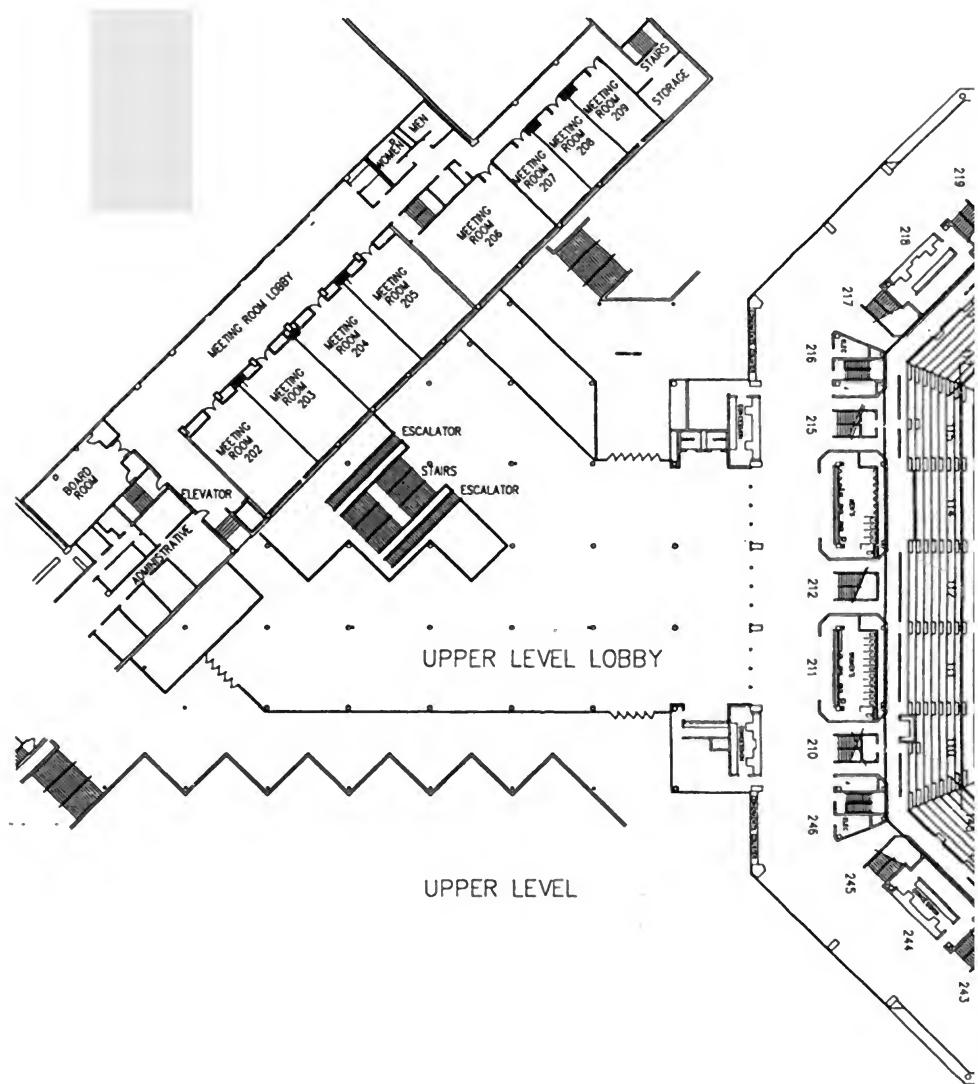
## **Saturday, April 13**

<b>7:30 am – 8:30 am</b>	ASB Executive Committee Breakfast	Embassy Suites
<b>8:30 am – noon</b>	<b>ASB Executive Committee Meeting</b>	Embassy Suites
<b>8am - 5pm</b>	<b>Workshop:</b> Workflows and Challenges in Digitization of Museum Specimens	West Virginia 104
<b>9 am – 3 pm</b>	<b>Workshop:</b> Mobile Keys and Floras: Developing Identification Apps for Android Devices	West Virginia 103
<b>8 am – 5 pm</b>	<b>ASB Field Trips</b>	

## **Charleston Civic Center Meeting Rooms – Lower Level**



## Charleston Civic Center Meeting Rooms – Upper Level



## Transportation and Parking at the Charleston Civic Center

### CIVIC CENTER PARKING INFORMATION

Charleston Civic Center's parking garage is accessible from both Quarrier and Lee Streets. The cost is \$3 per car.

Additional parking is also available at the Charleston Town Center. The cost is \$1.75 per car.

### HANDICAP PARKING

Handicapped parking is available on the first floor of the Civic Center's parking garage and in front of the facility. All spots are filled on a first come, first serve basis.

### PARKING LOT POLICIES

No overnight parking is permitted unless approved by Management

- The passing out of flyers or selling or merchandise is strictly prohibited by outside groups or individuals without the permission of Management
- The consumption of alcoholic beverages is prohibited in the parking garages
- No tailgating or similar parties are permitted in the parking garages

### Preview Rooms and PowerPoint Checks

Wednesday – noon – 10:00 pm	Room 206
Thursday – 7:00 am – 5:00 pm	South Hall
Friday – 7:00 am – 5:00 pm	Room 209

### Technology Notes

If you need internet access in the Charleston Civic Center, please purchase your access code at the Meeting Registration Desk for \$10 per code. Access code is good throughout the center and will provide access all 3 days.

### Conference Shuttle Bus Schedule

For assistance please call Scott Jewell 336-213-7373  
(Buses Depart every 30 minutes)

**from Embassy Suites to  
Charleston Civic Center**  
Wed: 12noon-10:00pm  
Thurs: 7am-11:30pm  
Fri: 7am-11pm

**from Charleston Civic Center  
to Embassy Suites**  
Wed: 12:30-10:30pm  
Thurs: 7:30am-Midnight  
Fri: 7:30am-11:30pm

The advertisement features a collage of images related to controlled environment systems. On the left, there's a view of a large greenhouse structure with plants growing inside. Next to it is a close-up of a piece of equipment, possibly a climate control unit or a growth chamber. To the right, a black and white photograph shows a scientist in a white lab coat working in a greenhouse setting, surrounded by plants and equipment. Below these images, the text "WE KEEP YOU GROWING" is prominently displayed in a stylized font.

Conviron is the world leader in the design, manufacture, and installation of controlled environment systems. With installations in over 80 countries, and a network of offices, distributors and service partners - our clients range from start-up companies to many of the largest and most prestigious corporate and academic research facilities in the world. We invite you to contact us to discuss your controlled environment requirements.

For more information, please visit us on our website at [www.conviron.com](http://www.conviron.com)

**Reach-In Chambers**  
**Walk-In Rooms**  
**Conviron Growth House™**  
**Conviron Research Greenhouse™**  
**Custom Solutions**

**CONVIRON®**  
Building Partnerships | Creating Solutions

## Charleston Town Center Mall



The image features the eScience Labs LLC logo at the top left, which includes a stylized flask icon and the text "eScience Labs LLC More Than An Experiment, An Experience". Below the logo is a photograph of a comprehensive lab kit. The kit consists of several components: a white box labeled "eScience Labs", a black tray containing small containers and labels, a clear plastic bag with a label, a white plastic bag with a label, a white container with a spoon, and a clear plastic container with a lid. A dark banner across the middle of the kit contains the text "Comprehensive Lab Kits for Online Learners".

eScience Labs LLC provides complete and comprehensive hands-on science kits to support online and traditional courses in need of a laboratory solution. These are the same experiments you would find in a traditional academic lab, but designed and scaled to be performed by students anytime, anywhere. Written by PhD level educators and scientists, our labs complement any teaching style or curriculum.

**eScience Labs kits include:**

- Hands-on Materials
- Full Color Lab Manual
- Safety equipment
- Learning Management System Integration
- Virtual Learning Activities

**Offering solutions for:**

- Biology
- Chemistry
- Anatomy & Physiology
- Microbiology
- Physics
- Physical Science
- Environmental Science
- Custom Kits



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www.esciencekits.com

## PLENARY SPEAKER

### DR. MEREDITH BLACKWELL

**Address Title: *Fungi That Fly: Fungi and Their Associations with Insects***

**Wednesday, April 10<sup>th</sup> at 7:30 pm – West Virginia Room**



**Meredith Blackwell** was born in Abbeville, Louisiana, a small town in the southwestern part of the state. After completion of undergraduate (USL) and graduate (University of Alabama and University of Texas) studies, she spent three years at the University of Florida in Gainesville as a postdoctoral researcher. It was at this time that she first studied minute termite-associated fungi previously described by Roland Thaxter. Her first faculty position was at Hope College, Holland, Michigan (1975-1981) and then LSU (1981-present) where she holds the rank of Boyd Professor. She has served in a number of offices of the Mycological Society of America including President and has been president of the International Mycological Association. During the

1997--1998 academic year, she served as a program officer for the Systematics Program in Evolutionary Biology at the National Science Foundation. She has been recognized by the Mycological Society of America with awards including the Distinguished Mycologist Award and the William H. Weston Teaching Award. She is a fellow of the Mycological Society of America, the British Mycological Society, and the American Academy of Arts and Sciences.

Her current research focuses on associations between fungi and arthropods. Important collaborators have been Robert L. Gilbertson, David Malloch, Joseph Spatafora, Sung-Oui Suh, Ning Zhang, and Hector Urbina. In a major undertaking with graduate school colleague, Charles Mims, she collaborated on the fourth edition of Introductory Mycology in 1996 (C. J. Alexopoulos, C. W. Mims, and M. Blackwell); the first edition of this textbook had been published by her major professor Alexopoulos in 1952. The fourth edition has been translated into German, Spanish, Portuguese, Chinese, and Farsi.

We welcome Dr. Blackwell to the 74<sup>th</sup> Annual Meeting of the Association of Southeastern Biologists as we celebrate our 76<sup>th</sup> anniversary of serving the biological needs of the southeastern region of the country.<sup>c3</sup>

## Silent Auction

The silent auction was established in 2006 to raise money to help defer travel cost for Graduate Student members presenting papers or posters during the ASB Annual Meeting. Since 2006, ASB has granted more than \$32,000 to qualifying students. Of that, the silent auction has added a little over \$11,000.00 (36%) to the graduate student travel fund. Donated items include books, handcrafts, memorabilia, nature photography, t-shirts, gift baskets, gift cards, jewelry, wine, fishing tackle, insect nets, and much more.

- For those that have items to donate to the silent auction, please bring your donation to the Silent Auction Area in the Exhibit Hall before 10:00 am on Thursday April 11<sup>th</sup> and one of the committee members will be available to receive it.

We want to thank you for participating in this worthwhile event. If you have any questions, please feel free to contact one of the Committee Members below:

Patricia Cox and the Fabulous Silent Auction Sisters:  
Kim Marie Tolson  
Pat Parr  
Eloise Carter  
Bonnie Kelley  
Diane Nelson

## Field Trips-Charleston ASB

### The Huntington Museum of Art Tour-Thursday April 11, 2013

**Departs 9:30 am**

The Huntington Museum of Art is a dynamic cultural center where art and nature educate and inspire visitors and residents alike. Visitors enjoy the beauty of glass, particularly that from the Ohio Valley; the functional artistry of American furniture and firearms; the serenity of 19<sup>th</sup> and 20<sup>th</sup> century American and European paintings; and the intricacy of Islamic prayer rugs. They can ponder the exotic mysteries of Middle Eastern arts; the exquisite acrobatics of sculptures by Calder and Rickey; and the marvels of nature's own canvas. The C. Fred Edwards Conservatory opened in 1996 and is West Virginia's only plant conservatory. It features tropical and subtropical plants that fall into four general categories: Orchids, Agriculturally Important, Fragrant, and Unusual. (<http://www.hmoa.org/>)

Van provided. Driving time one hour each way. Lunch provided.

### Tri-Beta Thursday Field Trip-New River Rafting-Thursday April 11, 2013

**Departs 11:00 am from the Charleston Civics Center Lobby**

Experience the "Grand Canyon of the East" on this rafting trip designed for the beginner to the advanced rafter. The New River is considered one of the greatest rafting destinations in the United States and this half day trip will certainly be exciting! Light snacks will be provided and we will make a quick stop for you to purchase lunch at a fast food restaurant.

Saturday Field Trips - All Depart From the Embassy Suites at 9:00 am unless otherwise noted.

#### **1. Carter Caves, Kentucky Tour**

Visitors to Carter Caves in northeastern Kentucky will enjoy luminous stone fans and draped mounds of stalactites and stalagmites formed over millions of years. The system includes more than 20 twisting caverns, including a 30-foot underground waterfall. <http://parks.ky.gov/parks/resortparks/carter-caves/default.aspx>

Driving time 1.5 hour each way. Lunch provided.

#### **2. Kanawha State Forest Hike**

The 9,300-acre Kanawha State Forest is noted among naturalist for its diverse wildflower and bird populations. Rich cove forest sites provide nesting habitat for

19 species of wood warblers and is a prime location to view lady slippers.  
<http://www.wvstateparks.com/Brochures/KanawhaStateForestBrochure.pdf>

<http://www.kanawhastateforest.com/hiking.html>  
Driving time 15 minutes each way. Box Lunch provided.

### **3. New River Gorge Hike**

A rugged, whitewater river flowing northward through deep canyons, the New River is among the oldest rivers on the continent. The park encompasses over 70,000 acres of land along the New River, is rich in cultural and natural history and offers an abundance of scenic and recreational opportunities.

<http://www.nps.gov/nero/index.htm>  
<http://www.nps.gov/nero/naturescience/index.htm>  
Driving time 1.5 hours each way. Box Lunch provided.

### **4. Saturday Huntington Museum of Art Tour**

The Huntington Museum of Art is a dynamic cultural center where art and nature educate and inspire visitors and residents alike. Visitors enjoy the beauty of glass, particularly that from the Ohio Valley; the functional artistry of American furniture and firearms; the serenity of 19<sup>th</sup> and 20<sup>th</sup> century American and European paintings; and the intricacy of Islamic prayer rugs. They can ponder the exotic mysteries of Middle Eastern arts; the exquisite acrobatics of sculptures by Calder and Rickey; and the marvels of nature's own canvas. The C. Fred Edwards Conservatory opened in 1996 and is West Virginia's only plant conservatory. It features tropical and subtropical plants that fall into four general categories: Orchids, Agriculturally Important, Fragrant, and Unusual.

<http://www.hmoa.org/>

Van provided. Driving time one hour each way. Box Lunch provided.

### **5. West Virginia State University Microbiology Fermenter Facility Tour**

Driving time 20 minutes each way. Box Lunch provided.

## Oral Presentations

**Thursday AM, April 11, 2013**

Time	Genetics and Cell A Room 207-208 Moderator: Margaret Kovach	Floristics or Systematics A Room 202 Moderator: Wayne Barger	Community Ecology A Room 203 Moderator: Jennifer Borgo	Freshwater Ecology A Room 204 Moderator: Riccardo Fiorillo	Conservation Biology A Room 205 Moderator: Claudia Jolls	Ecosystems A Room 206 Moderator: Maynard Schaus
8:30 AM	[1] Nitya T. Rao et al. • A Robust Protocol for Environmental DNA Species Detection Using Burmese Pythons ( <i>Python molurus bivittatus</i> ) and Bog Turtles ( <i>Glyptemys muhlenbergii</i> ) as Models	[9] Tanja M. Schuster et al. • Creating a 21 <sup>st</sup> century virtual herbarium at the University of Maryland	[20] Emma Levin-Nielsen et al. • Comparison of plant height, leaf surface area, and leaf length to width ratio between two populations of <i>Aster prenanthoides</i> in Upshur County, WV	[30] Stephen C. Landers et al. • Meiofauna and heavy metals from Gulf of Mexico sampling in 2012	[37] Andrea R. Benson et al. • Impact of large mammal herbivory on the federally threatened plant, <i>Scutellaria montana</i> Chapm. (large-flowered skullcap) at a military site, Catoosa County, Georgia	Presentations start after Poster Break at 10:30 am
8:45 AM	[2] Derrick Cardin et al. • Signaling activity and functional interactions of a nematode-specific extracellular leucine-rich repeat protein (eLRRP)	[10] Elizabeth Mercer et al. • The phylogeny of <i>Asimina</i> and <i>Deeringothamnus</i>	[21] Peter Wilfahrt • Regeneration of a North Carolina piedmont woodland 15 years after Hurricane Fran	[31] Todd A Egerton et al. • Storms, river flow and algal blooms in Virginia tidal tributaries	[38] J. Murray Hyde et al. • Detectability and population size estimation of two threatened mussel species in the Choctawhatchee River watershed	
9:00 AM	[3] Erika Balogh et al. • Silica storage cells in <i>Arundo donax</i> L. leaves	[11] Kari M. Harris et al. • Digitizing specimens in a small herbarium: a template for other collections working with limited resources	[22] Alexander K. Anning, Brian C. McCarthy • Competition, size and age affect tree growth response to fuel reduction treatments in	[32] Timothy Wynn, Arthur Benke • Habitat-specific production of a southeastern river shoal snail assemblage	[39] Bijay B. Niraula et al. • Analysis of simple physical microhabitat variables for three threatened freshwater mussels in the Choctawhatchee River	



Time	<b>Genetics and Cell A Room 207-208 Moderator: Margaret Kovach</b>	<b>Floristics or Systematics A Room 202 Moderator: Wayne Barger</b>	<b>Community Ecology A Room 203 Moderator: Jennifer Borgo</b>	<b>Freshwater Ecology A Room 204 Moderator: Riccardo Fiorillo</b>	<b>Conservation Biology A Room 205 Moderator: Claudia Jolls</b>	<b>Ecosystems A Room 206 Moderator: Maynard Schaus</b>
10:30 AM	[5] Gabriel Spencer et al. • Vitamin C intake by prostate cancer cell line PC-3 as affected by glucose starvation and vitamin availability in the media	[14] Derick B. Poindexter, Alan S. Weakley • Mountain men chasing a mountain mint: variation in <i>Pycnanthemum muticum</i> (Michx.) Pers.	[24] Casey Carpenter et al. • Phylogeography of short-tailed shrews (genus <i>Blarina</i> ) of southeast Tennessee	[34] Lindsay White et al. • Occurrence of the Asiatic weatherfish, <i>Misgumus anguillicaudatus</i> , in Northeast Alabama	[41] Kunsiri Chaw Grubbs • Propagation of Schweinitz's sunflower, <i>Helianthus schweinitzii</i> T. & G. (Asteraceae)	[46] Ryan Dorkoski, Jared L. DeForest • The consequences of acid rain deposition on fine-root biomass in temperate deciduous forest soils in southeastern Ohio
10:45 AM	[6] A.K. Helton et al. • Methamphetamine differentially alters the expression of peroxiredoxins in dopaminergic regions of the brain	[15] Helen Fowowe, Dane Kuppinger • Rediscovering the nation's oldest herbarium; Salem College's herbarium rejoins the botanical community	[25] Lauren E. Bizzari, Brian C. McCarthy • A large-scale experimental assessment of growth and survival of American chestnut and reforestation efforts across the central Appalachian range	[35] Kristen K. Cecala et al. • Modeling the effects of life-history traits on estimation of population parameters for a cryptic stream species	[42] Corey K Kapolka et al. • Effects of woody encroachment and restoration efforts on plant community composition of the remnant prairie 'Buffalo Beats,' in southeastern Ohio	[47] John Ryan A. Polascik et al. • Using vegetation and landscape analysis to validate a wetland rapid assessment method for Kentucky's forested riparian wetlands
11:00 AM	[7] Haley Kinney, Jennifer T. Thomas • Analysis of E-cadherin levels in human papillomavirus positive and negative cervical cancer cells infected with microorganisms	[16] Derick B. Poindexter, Robert F.C. Naczi • Taxonomy of <i>Carex lucorum</i> Willd. ex Link var. <i>australicum</i> Rettig (section <i>Acrocystis</i> , Cyperaceae)	[26] Laura M. Boggess et al. • Cliff community composition and modeling: an approach for climbing management	[36] Jose Orlay Castano, Mark Andrew Schlueter • Can North American bioassessment methods using macroinvertebrates for water quality analysis be used in Central and South America?	[43] John Taggart • Effects of white-tailed deer on the maritime forest of Bald Head Island, North Carolina	[48] Eric Duncan et al. • Use of the Granier Thermal Dissipation Probe (TDP) method to gain insight into species specific water use in a mature mixed tree stand in North Western Atlanta, GA
11:15	[8] Kailee Hawkins,	[17] Alan S. Weakley et al. • [27] Lea Abel, David			[44] Jacquelyn C. Guzy	[49] M.H. Schaus, M.J.

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AM	Jennifer T. Thomas • Analysis of Calpain-6 and Endostatin expression in human papillomavirus positive and negative cervical cancer cell lines and the impact of microbial infection	The Flora of Virginia: A new flora for the Old Dominion, and not a century too soon	Vandermaст • Assessment of invasive plant species threat on Elon University forest		et al. • The spatial configuration of greenspace affects semi-aquatic turtle occupancy and species richness in a suburban landscape	Catalano • Shifts in size structure alter nutrient release by a population of omnivorous fish
11:30 AM		[18] Karl C. Fetter • Biogeography of North American <i>Liriodendron</i>	[28] Matthew J. Heard, Dov F. Sax • Long-term coexistence between native and exotic plant species is facilitated by trade-offs in biotic interactions		[45] M. Worth Pugh et al. • Physiochemical and landscape parameters influence the distribution of an imperiled salamander	[50] Elizabeth M. Hillard, Laura E. DeWald • Elk ( <i>Cervus elaphus</i> ) habitat use in Great Smoky Mountains National Park
11:45 AM		[19] Alexandra Permar, Alan S. Weakley • Biogeographical assessment of vascular plant endemic centers in the Eastern US	[29] Kate Lyn Sheehan et al. • Intestinal parasites of double-crested cormorants culled in the Eastern United States			

## Thursday PM, April 11, 2013

Time	Genetics and Cell B Room 207-208 Moderator: Dwayne Wise	Floristics or Systematics B Room 202 Moderator: George Johnson	Community Ecology B Room 203 Moderator: Joe Pollard	Freshwater Ecology B Room 204 Moderator: David Foltz	Conservation Biology B Room 205 Moderator: LaShonda Caine	Ecosystems B Room 206 Moderator: Melissa Caspary
1:30 PM	[51] Scott Kim, Nick Ragsdale • Role of PMK-1 immune pathway in <i>Caenorhabditis elegans</i> infected with <i>Acinetobacter baumannii</i>	[57] Jimmy K. Triplett et al. • When evolutionary paths cross again ... and again! Hybridization, polyploidy, and speciation in bamboos and other grasses	[67] Kyle A. Palmquist • Species frequency patterns in the longleaf pine ( <i>Pinus palustris</i> Mill.) ecosystem: characterizing the identity and dynamics of infrequent plant species	[77] Robert Hopkins II et al. • Exploring the legacy effects of surface coal mining on stream chemistry	[84] Chelsea Jacobs, David Vandermaст • Control of Kudzu ( <i>Pueraria montana</i> ) on Elon University Forest with seasonal shading techniques	[92] Melissa D. Caspary • Using spatial analysis to predict habitat threats and rare species occurrence in granite rock outcrops
1:45 PM	[52] Anderson Webb, Nick Ragsdale • The effects of pathogenic <i>Acinetobacter baumannii</i> on mortality of the host model <i>Caenorhabditis elegans</i>	[58] Amelia P. Harris et al. • A flora of Bendabout Farm, Bradley County, Tennessee and survey of native <i>Castanea dentata</i> (Marsh) Borkh. (Fagaceae, American Chestnut)	[68] Frank S. Gilliam et al. • Variation in biotic linkages with slope aspect in a temperate hardwood forest	[78] Deborah K. Beutler • The effects of using crushed limestone to treat acid mine drainage on the invertebrates in Morris Creek, Kanawha Co., WV	[85] James C Haynes et al. • A management approach to nocturnal habitat of the American woodcock ( <i>Scolopax minor</i> ) in south-central Louisiana	[93] Nicholas G. Stewart, Mark A. Schlueter • Fluctuations in species abundances of major apple pollinating native bees during progressively earlier apple blooms over a three year period in north Georgia



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3:30 PM	[54] Thomas G Huff, Michael J Bruno • <i>Bacillus subtilis</i> membrane and lipid raft composition dependence on growth conditions and DOXP synthase inhibition	[61] Sabrina D. Setaro et al. • Coexisting Ericaceae and Orchidaceae are associated with different guilds of mycorrhizal Sebacinales (Basidiomycetes) in a neotropical mountain rain forest	[71] Jessica Beard, Deborah Waller • Dragonfly perch selection related to perch height and location	[81] Neil Billington et al. • Population genetic structure in walleye	[88] Patrick Sullins et al. • Are <i>Liatris helleri</i> and <i>L. turgida</i> the same species?	[96] Emily Neidhardt, David Vandermaст • Geographic variation in the allelopathic potential of American beech ( <i>Fagus grandifolia</i> )
3:45 PM	[55] J.M. Ross et al. • Adolescent exposure to psychostimulants cross-sensitizes adults to methamphetamine with a drug and sex specific effect	[62] Katharine B. Gregg, Larry Klotz • The flora of Beavers' Meadow, Barbour County, WV, revisited after 25 years	[72] Ray S Williams, Peter W Blum • Insect pollinator visitation between genotypes of a dominant old-field plant species, <i>Solidago altissima</i>	[82] Daniel Hoffman et al. • Comparison of nitrogen transformation rates in vegetated and un-vegetated marine sediments of St. Joseph Bay, FL	[89] Jacqueline R. Wagner, Zack E. Murrell • Morphometric, geographic, and genetic analyses of dwarf flowered heartleaf ( <i>Hexastylis naniflora</i> ): A multidisciplinary approach to conservation and management	[97] David R. L Burge et al. • Land-use practices in relation to wetland water quality of the Cache River, AR, USA
4:00 PM	[56] Manuela Cotton et al. • Behavior of centromere-kinetochore fragments during mitosis without chromosomes	[63] C. Theo Witsell et al. • Floristic inventory of native grassland remnants in the grand prairie region of Arkansas: a baseline for restoration efforts	[73] Jamil Ghazal et al. • The distribution of marine benthic meiofauna in the northern Gulf of Mexico	[83] David Mason Brendle et al. • Effects of different rural land covers on stream morphology and stream biotic integrity in the piedmont of South Carolina	[90] April P. Punshon et al. • The germination ecology of <i>Helonias bullata</i> (swamp pink)	[98] Claire Tipton et al. • Enzyme activity in hyporheic soils of Piedmont streams

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4:15 PM		[64] C. Theo Witsell et al. • The significance of cliff and talus communities as habitats for rare plant species in the interior highlands of Arkansas	[74] James E. Russell et al. • The effect of habitat disturbance on arthropod community biodiversity and the distribution of <i>Wolbachia</i> bacterial infection		[91] Angela H. Getz et al. • Parentage in two populations of federally protected gopher tortoises, <i>Gopherus polyphemus</i>	
4:30 PM		[65] W. Michael Dennis, Joey Shaw • Taxonomy of <i>Clematis</i> subgenus <i>Vioma</i> and speciation in subsection <i>Viomae</i>	[75] Ashley B. Morris et al. • The beech gaps revisited: Determining reproductive strategy using nuclear microsatellite loci			
4:45 PM		[66] Joey Shaw et al. • A preliminary phylogeny of <i>Clematis</i> subg. <i>Vioma</i> (Ranunculaceae): toward the understanding of the complex biogeographic patterns of this taxon	[76] Caleb Matthews, Cindy Bennington • Staying alive in the face of herbivory: Genetic variability and tradeoffs in defense traits of <i>Passiflora incarnata</i>			

## Friday AM, April 12, 2013

Time	Microbiology Room 206 Moderator: Henry G. Spratt	Floristics or Systematics C Room 202 Moderator: Mac Alford	Community Ecology C Room 203 Moderator: Deborah K. Beutler	Entomology/Invertebrates Room 204 Moderator: Zachary Loughman	Symposium - Digital Room Parlor D Moderator: Ashley B. Morris
8:30 AM	[99] M. Shea Harrison, Jennifer T. Thomas • An examination of AIM2 expression in response to human papillomavirus and infectious microbes in cervical cancer cell lines	[109] Alan S. Weakley • Variety or subspecies? Or, for that matter, species, or nothing at all?	[119] Spencer N. Bissett, Donald R Young • Vines in coastal environments: Distribution, diversity, and succession on two barrier islands	[130] Katrina Lustofin • Analysis of UV fluorescence by two common millipede species from Southeastern Ohio	Introductory Remarks by Ashley Morris; Introduction to iDigBio by Gil Nelson
8:45 AM	[100] Kathryn E. Rush, Jennifer T. Thomas • IRF-3 levels decreased in human papillomavirus positive cervical cancer cell lines infected with bacteria and fungi	[110] Jayne A. Lampley, Jimmy K. Triplett • A phylogenetic analysis of the medicinal plant <i>Polygonatum biflorum</i> in the Southeastern United States	[120] Gary E. Schultz, Jr., Jeff J. Kovatch • Microbial beta diversity patterns in the Ohio river watershed as determined by pyrosequencing	[131] Peter A. Van Zandt et al. • A comparison of the moth communities of forested, glade, and urban habitats in Bibb and Jefferson Counties, Alabama	[141] Chris Dietrich et al. • InvertNet: A new paradigm for digital access to invertebrate collections
9:00 AM	[101] Brad Gill, Nick Ragsdale • The effect of temperature on the mortality rate of <i>Caenorhabditis</i> <i>elegans</i> infected with <i>Staphylococcus aureus</i>	[111] Kevin L McDonald, Jimmy K. Triplett • Vascular flora of the Frank Spain Scout Reservation in Cleburne County, Alabama	[121] Matthew R. Semcheski et al. • Benthic microalgal composition in lower Chesapeake Bay intertidal wetlands	[132] Jacob Brooks, Lori Tolley- Jordan • The effects of barriers and carion size on the diversity of adult insects among four stages of decomposition	

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9:15 AM	[102] Tasha Samborski, David Wessner • Analyzing the cytotoxicity and anti-viral properties of trizole nucleoside analogues	[112] Christine Gang et al. • Additional species in southeastern <i>Trichostema</i> (Lamiaceae): another mint genus gone woody and wild in the southeastern Coastal Plain	[122] Meghan Foard, Travis D. Marsico • Understanding the role of hydrology in the invasion of Chinese privet ( <i>Ligustrum sinense</i> Lour.)	[133] Anthony Abbate, Joshua Campbell • Parasitic Beechdrops ( <i>Epifagus virginiana</i> ): A possible ant pollinated plant	[142] Kimberly Watson et al. • Plants, herbivores, and parasitoids: Tri-trophic digitization strategies
9:30 AM	[103] Sophia Stone et al. • LL-37 and CpG oligonucleotides increase growth, migration, and invasion in a prostate cancer cell model	No Presentation	[123] Dennis D. Tarasi, Robert K. Peet • A test of the community saturation hypothesis at multiple spatial scales in Southeastern U.S. forests	[134] Zachary J Loughman • Should I stay or should I go? Determining the movement patterns of male New River crayfish through use of telemetry	
9:45 to 10:30 AM	POSTER SESSION 3 121-167 All Posters	POSTER SESSION 3 121-167 All Posters	POSTER SESSION 3 121-167 All Posters	POSTER SESSION 3 121-167 All Posters	POSTER SESSION 3 121-167 All Posters
10:30 AM	[104] Elene Clemens, David Wessner • Characterization of ammonium chloride resistant reovirus mutants	[113] Scottie D. Berk, Roland P. Roberts • Leaf and stem anatomical features as indicators of evolutionary relationships in <i>Chrysanthemum</i> and related genera	[124] Emily C. Price, John F. Walker • Seasonal change in root fungal communities associated with <i>Rhododendron maximum</i> in the southern Appalachian mountains	[135] Raquel Fagundo et al. • Occurrence of the Asiatic weatherfish, <i>Misgurnus anguillinaudatus</i> , in Northeast Alabama	[143] Hank Bart • Efficiencies and challenges of organizing an ADBC TCN project on southeast freshwater macrofauna

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10:45 AM	[105] Matthew Boyce, Philip Rock • A metagenomic comparison of the microflora from vermicompost with the intestinal microflora from the composting worm <i>Eisenia fetida</i>	[114] Clayton M. Costa, Roland P. Roberts • Molecular phylogeny of the goldenasters, subtribe Chrysopsideinae (Asteraceae, Astereae), based on nuclear ribosomal and chloroplast sequence data	[125] Daniel C. Parker, John F. Walker • Community composition and diversity of ericoid root associated fungi at different elevations in the southern Appalachian Mountains	[136] Mandy Pearson, Lori Tolley-Jordan • The effects on insect exclusion and animal size on the stages of decomposition	
11:00 AM	[106] D. B. Wilson et al. • Mineralization of the herbicide simazine in golf course pond sediment: Comparison of passive bioremediation, biostimulation, and bioaugmentation	[115] Rebecca N. Johnson, L. Dwayne Estes • Systematics and biogeography of the Australasian <i>Gratiola nana</i> (Plantaginaceae, tribe Gratiroleae) complex	[126] Kellen Arlinghaus, Timothy Griffith • Will northern range shifts impact photosynthetic capacity? A study of longer day lengths on the leaf architecture of multiple grassland species	[137] Travis D. Marsico et al. • Comparison of gene expression profiles between a native cactus borer ( <i>Melitara prodenialis</i> ) and an invasive cactus borer ( <i>Cactoblastis cactorum</i> ) to assess unique responses to food source	[144] Zack E. Murrell • So many herbaria, so little time: Challenges and opportunities in biodiversity informatics
11:15 AM	[107] H. G. Spratt et al. • The influence of bacterial growth in pores of pervious concrete on the flow of water through pervious pavements	[116] Sabrina Y.S. Sewell, Wendy B. Zomlefer • Floristic inventory and quality of Georgia Piedmont Gabbro upland depression forests	[127] Teresa Moody et al. • Skinks are 'dilution hosts' for the Lyme disease bacterium in the southeastern U.S.	[138] John T. Evans et al. • Observations of leg injuries and wound healing in a Neotropical cosmetid harvestman	

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11:30 AM	[108] T. Saray Smalls et al. • Uptake of HPV vaccination in traditional undergraduate students at Queens University of Charlotte: Knowledge, behaviors and barriers	[117] Diego Fajardo et al. • Systematic and functional implications of structural rearrangements in whole chloroplast genomes of Ericaceae	[128] Todd L Scarlett • Foraging and movements of Great Blue Herons below hydroelectric dams	[139] David A. Foltz II et al. • Life history and seasonal demography of <i>Cambarus cf. robustus</i> from the Twelvepole Watershed in West Virginia	[145] Andrew Bentley • Collaborative digitization workflows with Specify 6
11:45 AM		[118] Whitney Senn, Michael Woods • The genus <i>Dalea</i> (Fabaceae) in Alabama	[129] Peter E. Schweizer, Glenn R. Matlack • Natural and anthropogenic determinants of forest dynamics on the outer coastal plain of Mississippi, USA	[140] Spencer Bell, Zachary Loughman • Life history of <i>Oncorhynchus obscurus</i> (Allegheny Crayfish) in northern West Virginia	

## Friday PM, April 12, 2013

Time	Scholarship of Teaching Room 204 Moderator: C. Brian Odom	Floristics or Systematics D Room 202 Moderator: Roland Roberts	Physiological and Population Ecology Room 206 Moderator: Howard Neufeld	Ichthyology and Herpetology Room 203 Moderator: Tom Blanchard
1:30 PM	[146] Jennifer T. Thomas  • Collaborative learning in biology: a sexually transmitted disease seminar for non-majors	[158] Charles N. Horn • The genus <i>Rhododendron</i> (Ericaceae) in South Carolina	[169] Alyssa L. Teat et al. • Biochar increases biomass in <i>Miscanthus × giganteus</i> under drought conditions	[180] Jonathan Cooley et al. • Interactions between red-eared sliders ( <i>Trachemys scripta elegans</i> ) and yellow-bellied sliders ( <i>T. s. scripta</i> )
1:45 PM	[147] Chris Barton, Kacie Hittel • Learning community courses: bridging the gap across disciplines	[159] Bruce A Sorrie • Bigger is better? – One-square-kilometer vegetation plots in central North Carolina	[170] Benjamin Hagen et al. • The effects of 4,4'-DDE egg accumulation on kingsnake ( <i>Lampropeltis mexicana</i> ) embryo development and egg shell thickness	[181] Madeleine M. Kern et al. • Factors causing deviation from optimal egg size theory in the diamondback terrapin ( <i>Malaclemys terrapin</i> )
2:00 PM	[148] Darlene Panvini • Tree tours, photo books, and arboretum adventures	[160] Sarah Marie Noble, Steven D. Carey • Survey of the calcicolous bryoflora of south Alabama and south Mississippi	[171] Z. Carter Berry, William K. Smith • Utilization of fog water through foliar water uptake: a unique strategy in southern Appalachian spruce-fir cloud forests	[182] Amy J. Nesius, John H. Niedzwiecki • Optimizing microsatellites for use in the population genetics of spotted salamanders, <i>Ambystoma maculatum</i>
2:15 PM	[149] Claudia L. Jolls et al. • ECU Noyce Scholars: recruiting STEM majors into public education	[161] Brad R. Ruhfel et al. • Inferring the phylogeny of green plants (Viridiplantae) using coding data from the plastid genome	[172] Sheri A. Shiflett et al. • Physiology of <i>Myrica cerifera</i> is conserved across a barrier island chronosequence of shrub thicket development: a mechanism of shrub expansion	[183] Carlos D. Camp <sup>1</sup> , John B. Jensen • Life in a thermal ecotone: salamander activity patterns within twilight zones of caves
2:30 PM to 3:00 PM	POSTER SESSION 4 Ends at 4 pm	POSTER SESSION 4 Ends at 4 pm	POSTER SESSION 4 Ends at 4 pm	POSTER SESSION 4 Ends at 4 pm
3:00 PM	[150] Roger Sauterer • Introducing column chromatography in the classroom by a simple and inexpensive lab exercise	[162] J. M. Herr, Jr., Erika Balogh • The Hydro-microtome: A modification for sectioning leaves	[173] Stephen M Via et al. • Physiological responses of <i>Morella cerifera</i> to varying concentrations of explosive soil contamination	[184] Abby L. Sinclair, Thomas K. Pauley • Preliminary data on amphibian use of road-rut pools in West Virginia

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3:15 PM	[151] Holland M. Hedrick et al. • Mendel's Dice: A simple method for simulating genetic crosses	[163] Emily Gillespie, Kathleen Kron • Toward a robust phylogeny of <i>Rhododendron</i>	[174] Pieter A.P. deHart et al. • Unraveling ecosystem interactions of a top arthropod predator, the praying mantis, using stable isotope analysis	[185] Diane R. Nelson, Eugenie Clark • Behavior of <i>Trichonotus elegans</i> (family Trichonotidae) and its cohabitation with the garden eel, <i>Gorgasia maculata</i> (family Congidae)
3:30 PM	[152] Jennifer S. Borgo et al. • The evolution of a biology capstone seminar	[164] Ronald L. Jones, B. Eugene Wofford • New book on the woody plants of Kentucky and Tennessee	[175] A. Joseph Pollard, J. Andrew C. Smith • Population-level variation in nickel tolerance and hyperaccumulation in <i>Alyssum serpyllifolium</i> from the Iberian Peninsula	[186] Charles Battaglia, John Carr • A herpetofaunal comparison of a regenerating versus an established bottomland hardwood forest in Northeastern Louisiana, USA
3:45 PM	[153] Andrew N. Ash et al. • A demographic analysis of participants at The Herp Project HREs (Year 1, 2012)	[165] Kathy Hornberger • Collections at local science museum reveal connections to 19 <sup>th</sup> century explorer, Ferdinand V. Hayden	[176] Glenn Marvin, Mattie Lewis • Effect of temperature, photoperiod, and feeding on the rate of tail regeneration in a semiaquatic Plethodontid salamander ( <i>Desmognathus conanti</i> )	[187] Gavin R. Lawson <sup>1</sup> , Eran S. Kilpatrick • Hybridization among the subspecies of eastern newts ( <i>Notophthalmus viridescens</i> ) in South Carolina
4:00 PM	[154] Jennifer T. Thomas et al. • Integrating undergraduate research into a biology curriculum	[166] Mac H. Alford, S. Brittany Singley • Flora of the Gopher Farm Sandhill, Wayne County, Mississippi	[177] Dane Kuppinge <sup>1</sup> , Peter White • Experimental tests of <i>Pawlonia tomentosa</i> 's germination requirements and the seed's ability to survive fire	[188] David A. Beamer • Head shape evolution in an adaptive radiation of salamanders
4:15 PM	[155] Joseph Flaherty • Science Twitteracy at Coker College: Incorporating Twitter in biology courses to enhance student engagement and learning	[167] Hayden L. Shafer et al. • Whole genome chloroplast variability and implications for low level phylogenetic or phylogeographic inference	[178] James Rayburn • The interaction effects of natural oil and oil dispersants with delivery system on embryos of <i>Palaemonetes pugio</i>	[189] Daniel Gaillard et al. • Population genetics of the gopher tortoise, <i>Gopherus polyphemus</i>

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4:30 PM	[156] Michael Erwin • Introducing research skills into the introductory biology curriculum	[168] No Presentation here	[179] Matthew S. Swain et al. • Abiotic effects on biological control of the invasive weed <i>Persicaria perfoliata</i> and surrounding vegetative community composition	[190] Brian Williamson et al. • The effect of habitat diversity on home range area of the eastern box turtle
4:45 PM	[157] Christopher G. Brown • Hands-on microevolution activity for lab or classroom			[191] Kevin Messenger, Yong Wang • Determining areas of high biodiversity and habitats of concern for the herpetofauna of China

## Posters – South Hall

#	Title	Authors
P1	Preliminary analyses of fruit and seed variation of <i>Planchonella sandwicensis</i> across the Hawaiian Islands	<b>Cynthia L. Blankenship, J. Christopher Havran</b> Department of Biological Sciences, Campbell University, Buies Creek, NC
P2	The allelopathic effects of Chinese privet ( <i>Ligustrum sinense</i> Lour.) foliage extracts on seed germinations	<b>Zhi Lin<sup>1</sup>, Kunsiri Chaw Grubbs<sup>2</sup></b> <sup>1</sup> Department of Chemistry, Physics & Geology, Winthrop University, Rock Hill, SC; <sup>2</sup> Department of Biology, Winthrop University, Rock Hill, SC
P3	The effect of habitat type on bat activity and species richness monitored via acoustic survey at Reelfoot Lake in northwest Tennessee	<b>Christine Hassell, Nancy Buschhaus</b> Department of Biological Sciences, University of Tennessee at Martin, Martin, TN
P4	The effects of interspecific competition on personality and assortative mating in Eastern Bluebirds ( <i>Sialia sialis</i> )	<b>Morgan Harris, Lynn Siefferman</b> Department of Biology, Appalachian State University, Boone, NC
P5	The trophic ecology of invasive fire ants in natural ecosystems of North Carolina	<b>Betty L Haughn<sup>1</sup>, Lisa Kelly<sup>1</sup>, Wm. Bruce Ezell<sup>1</sup>, Lee Phillips<sup>1</sup>, Stephen Macko<sup>2</sup></b> <sup>1</sup> Department of Biology, University of North Carolina at Pembroke, Pembroke, NC <sup>2</sup> Department of Environmental Sciences, University of Virginia, Charlottesville, VA
P6	A comparison of frog assemblage patterns within a recently restored wetland to assemblage patterns at similar locations within the same drainage system	<b>Brooke Terilli, Timothy O. Menzel</b> Department of Natural Sciences, Piedmont College, Demorest, GA
P7	Inter-island variation in leaf shape of <i>Planchonella sandwicensis</i> (Sapotaceae) an endemic Hawaiian tree	<b>Sandra L. Westergaard<sup>1</sup>, Joseph B. Vaughan<sup>2</sup>, J. Christopher Havran<sup>1</sup></b> <sup>1</sup> Department of Biological Sciences, Campbell University, Buies Creek, NC <sup>2</sup> Department of Biology, University of York, York, UK
P8	The relative importance of environmental factors and dispersal distance on the occurrence of <i>Oxydendrum arboreum</i> saplings	<b>Jamie Dennis, Timothy O. Menzel</b> Department of Natural Sciences, Piedmont College, Demorest, GA

P9	The relationship between ant species co-occurrence patterns and the nature of their interactions	<b>John B. Farmer<sup>1</sup>, Timothy O. Menzel<sup>2</sup></b> Department of Natural Sciences, Piedmont College, Demorest, GA
P10	Pond depth influence on freshwater benthic communities	<b>Shauna L. Gearhart, Morgan G. Lange, Madeline McMillan, Charles Palmer, Braden Stocks, Kate Lyn Sheehan, Ron J. Johnson</b> School of Agricultural, Forest, and Environmental Sciences, Clemson University, Clemson, SC
P11	Influence of avian guano on primary productivity in shallow freshwater ponds	<b>Andrew S. Begrowicz, Charlton Brownell, Kayla B. Frady, Kate Lyn Sheehan, Ron J. Johnson</b> School of Agricultural, Forest, and Environmental Sciences, Clemson University, Clemson, SC
P12	The role of vegetation in structuring aquatic communities	<b>Andrew S. Begrowicz, Charlton Brownell, Kate Lyn Sheehan, Ron J. Johnson</b> School of Agricultural, Forest, and Environmental Sciences, Clemson University, Clemson, SC
P13	Genetic variation in the rare, clonal shrub <i>Spiraea virginiana</i> Britton (Virginia Spiraea) and implications for its conservation in Western North Carolina	<b>Kristin Emery, Gwendolyn Casebeer, H. David Clarke, Jennifer Rhode Ward</b> Biology Department, University of North Carolina Asheville, Asheville, NC
P14	Investigation of a turtle community in a Northwest Georgia lake and wetland prior to restoration	<b>Marlon H. Romo, Christopher B. Manis, G. John Lughart</b> Department of Natural Sciences, Dalton State College, Dalton, GA
P15	Herpetofaunal composition at Kalmia Gardens of Coker College	<b>Kristen Oliver, Mellissa Hughes, Jeffery Beasley, Erynn DeLancy, Rachel Reid, Jennifer S. Borgo</b> Department of Science and Mathematics, Coker College, Hartsville, SC
P16	The effect of distance and season on the giving up density (GUD) of old field mice, <i>Peromyscus polionotus</i>	<b>Fatumata Sesay, Stephen Matike-Tita, Steven Riera, Mark Meagley, Kirsten Edwards, Katherine Heying, Chelsea Reinert, Cassandra Lumpkin, Michelle Cawthorn</b> Department of Biology, Georgia Southern University, Statesboro, GA
P17	Do right-pawed dogs have right-handed owners and vice versa?	<b>Shawna Wade, Michelle Cawthorn</b> Department of Biology, Georgia Southern University, Statesboro, GA
P18	Native plant community response to different methods of removal of exotic invasives	<b>Sarah Farmer, Jonathan L. Horton, H. David Clarke, Jennifer Rhode Ward</b> Department of Biology, University of North Carolina-Asheville, Asheville NC

P19	Bottom-up control of herbivores in tropical forest restoration	Kaitlyn Schaaf <sup>1</sup> , Rita Malia Fincher <sup>1</sup> , Tara Joy Massad <sup>2</sup> , Alex Gilman <sup>3</sup> <sup>1</sup> Department of Biological and Environmental Sciences, Samford University, Birmingham, AL; <sup>2</sup> University of Chicago, Chicago, IL; <sup>3</sup> Organization for Tropical Studies, San Jose, Costa Rica
P20	Birding on campus: Using citizen science as an introduction to avian research	Carmony Adler <sup>1</sup> , Andrew S Begrowicz <sup>2</sup> , Melissa Chromik <sup>1</sup> , Kate Lyn Sheehan <sup>2</sup> , Claire Stuyck <sup>2</sup> , Ron J Johnson <sup>2</sup> <sup>1</sup> Department of Biological Sciences, Clemson University, Clemson, SC <sup>2</sup> School of Agricultural, Forest, and Environmental Sciences, Clemson University, Clemson, SC
P21	Effects of surrounding land use patterns and floral diversity on insect pollinator abundance and biodiversity	Cakey Worthington, Corinne McCullough, Robert Spalding, Christopher J. Paradise Davidson College Biology Department, Davidson, NC
P22	Perch-site characteristics in relation to prey and vegetation cover densities of overwintering Red-tailed Hawks ( <i>Buteo jamaicensis</i> ) and American Kestrels ( <i>Falco sparverius</i> )	Alexander J Worm, Melissa Bobowski, Thomas Risch Department of Biological Sciences, Arkansas State University, State University, AR
P23	Population trends of the federally endangered Running Buffalo Clover ( <i>Trifolium stoloniferum</i> ) in the Blue Grass Army Depot, KY from 2003-2012	Alexi Dart-Padover, David Brown, Jennifer Koslow Department of Biological Sciences, Eastern Kentucky University, KY
P24	Preliminary survey of Brown Pelican, <i>Pelecanus occidentalis</i> , in Jacksonville, Florida	Kelsey J. Cooper, E. Natasha Vanderhoff Department of Biology and Marine Science, Jacksonville University, Jacksonville, FL
P25	Modeling the population dynamics of <i>Lasiurus borealis</i> and their prey in western North Carolina	Sarah Katherine Springthorpe Department of Biology, Salem College, Winston-Salem, NC
P26	Modeling responses of American ginseng ( <i>Panax quinquefolius</i> L.) populations to different levels of simulated harvest	Andrew Watson, H. David Clarke Department of Biology, University of North Carolina-Asheville, Asheville, NC
P27	The effect of gibberellic acid on Schweinitz's sunflower, <i>Helianthus schweinitzii</i> T. & G. (Asteraceae) seed germination	Alaina Wynes, Kunsiri Chaw Grubbs Department of Biology, Winthrop University, Rock Hill, SC

P28	Micro-scale effects on growth and survival of <i>ex situ</i> planted individuals of <i>Helonias bullata</i> in a high mountain bog	<b>Emma York, Timothy O. Menzel</b> Department of Natural Sciences, Piedmont College, Demorest, GA
P29	The effect of human settlements on carnivore abundance and diversity	<b>Mark A. Schlueter, Nathaniel A. Wall</b> Georgia Gwinnett College, Lawrenceville, GA
P30	Seed selection by Mourning Doves ( <i>Zenaida macroura</i> ) in Northeastern Louisiana	<b>William Futch<sup>1</sup>, Jeffery Duguay<sup>2</sup>, Kim Marie Tolson<sup>1</sup></b> <sup>1</sup> Department of Biology, University of Louisiana at Monroe, Monroe, LA <sup>2</sup> Louisiana Department of Wildlife and Fisheries, Baton Rouge, LA
P31	Using digital macrophotography to measure biodiversity, identify insects and enhance outreach and education	<b>Corinne McCullough, Cakey Worthington, Christopher J. Paradise</b> Biology Department, Davidson College, Davidson, NC
P32	The persistent effects of abandoned mine drainage on water chemistry and benthic macroinvertebrates in Black Creek, a tributary of the Black Warrior River in Western Jefferson County, AL	<b>Victoria Underwood<sup>1</sup>, Elizabeth G. Dobbins<sup>1</sup>, Kevin J. Morse<sup>2</sup></b> <sup>1</sup> Department of Biological and Environmental Sciences, Samford University, Birmingham, AL; <sup>2</sup> Department of Biological and Environmental Sciences, University of West Alabama, Livingston, AL
P33	The effects of rock vane remediation on sediment load and fine silt deposition in Shades Creek, Homewood, AL	<b>Robyn Harmon, Lindsay Guild, Elizabeth G. Dobbins, Kristin A. Bakkegard</b> Department of Biological and Environmental Sciences, Samford University, Birmingham, AL
P34	Newly discovered population of Eastern Sand Darter ( <i>Ammocrypta pellucida</i> ) in Raccoon Creek (Ohio River basin) in south-central Ohio	<b>Robert Hopkins II, Oliver Hewitt-Fisher, Holly Huntley, Erin Sherman</b> Biology Program, University of Rio Grande, Rio Grande, OH
P35	An evaluation of multiple lure techniques to attract wild canines for biological research	<b>Charles B. Shutt, Pieter A. P. deHart</b> Department of Biology, Virginia Military Institute, Lexington, VA
P36	Variations of a small mammal community in a changing landscape in southeastern Virginia	<b>Kathryn Rogers, Jana Eggleston, Sarah Crawford, Robert K. Rose</b> Department of Biological Sciences, Old Dominion University, Norfolk, VA
P37	The effect of acid rain on <i>Acer rubrum</i> flower and seed production in unglaciated hardwood forests	<b>Anna L. Peters, Jared L. DeForest</b> Department of Environmental and Plant Biology, Ohio University, Athens, OH
P38	Effect of <i>Castor canadensis</i> herbivory on invasive plant species richness and abundance	<b>William Wollman, David Vandermast</b> Department of Environmental Studies, Elon University, Elon, NC

P39	Assessing ecological integrity of grazed and ungrazed tropical dry forests through soundscape analysis	<b>Lyndsay L. Rankin, Anne C. Axel</b> Department of Biological Sciences, Marshall University, Huntington, WV
P40	Developing a site-wide reference tree-ring chronology on the biology trail system of Southern Adventist University: How the past informs the future of our forests	<b>Brenden Dodd<sup>1</sup>, Brenton Campbell<sup>1</sup>, Michael Chung<sup>1</sup>, Jorge Magana<sup>1</sup>, Seth Stennis<sup>1</sup>, Melissa You<sup>1</sup>, Ben Thornton<sup>2</sup>, Henri D. Grissino-Mayer<sup>2</sup></b> <sup>1</sup> Department of Biology and Allied Health, Southern Adventist University, Collegedale, TN; <sup>2</sup> Department of Geography, University of Tennessee, Knoxville, TN
P41	All taxa biological inventory of Catawba College Preserve and adjacent lands	<b>Jonathan Cooley, Jay Bolin</b> Department of Biology, Catawba College, Salisbury, NC
P42	Preliminary survey of orb-weaving spiders in an oak hammock forest in northeast Florida	<b>E. Natasha Vanderhoff, Nigel Campbell, John Enz</b> Department of Biology and Marine Science, Jacksonville University, Jacksonville, FL
P43	Pollinating insect communities in semi-natural grasslands managed for conservation benefits and biomass production	<b>Ashley Galway<sup>1</sup>, Joshua Campbell<sup>1</sup>, James Martin<sup>2</sup></b> <sup>1</sup> Department of Biology, High Point University, High Point, NC <sup>2</sup> College of Forest Resources, Mississippi State University, Starkville, Mississippi
P44	Food Choice of the neotropical harvestman <i>Erginulus clavotibialis</i> (Opiliones: Laniatores: Cosmetidae)	<b>M.H. Schaus, V.R. Townsend, J.J. Illinik</b> Department of Biology, Virginia Wesleyan College, Norfolk, VA
P45	Will <i>Podisus maculiventris</i> control <i>Megacopta cribraria</i> populations?	<b>Jamal H. Hunter<sup>1</sup>, Michael D. Toebs<sup>2</sup></b> <sup>1</sup> School of Science and Mathematics, Abraham Baldwin Agricultural College, Tifton, GA; <sup>2</sup> Department of Entomology, University of Georgia, Tifton, GA
P46	Land snails of North Carolina. Part 3. Flat snails with simple lips ( <i>Gastrodonta</i> , <i>Haplotrema</i> , <i>Mesomphix</i> , <i>Paravitrea</i> , <i>Ventridens</i> , and <i>Vitrinizonites</i> )	<b>Robert Wayne Van Devender<sup>1</sup>, Amy S. Van Devender<sup>2</sup></b> <sup>1</sup> Department of Biology, Appalachian State University, Boone, NC <sup>2</sup> 797 Little Laurel Road Ext., Boone, NC
P47	Developing a predictive model of the autecology of the spruce-fir moss spider, <i>Microhexura montivaga</i> Crosby and Bishop 1925	<b>Travis Seaborn</b> Department of Biology, Western Carolina University, Cullowhee, NC
P48	Crayfishes of the New and Gauley River basins of West Virginia: Conservation and natural history	<b>Nicole Sadecky, Kelli Lighthiser, Raquel Fagundo, Michael Lucero, E. Joseph Nolan, Zachary Loughman</b> Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV

P49	Identification of a native bee species to serve as the primary pollinator for commercial apple cultivation in north Georgia	<b>Nicholas G. Stewart, Mark A. Schlueter</b> Georgia Gwinnett College, Lawrenceville, GA
P50	Results of the first survey of northern West Virginia's centipede fauna	<b>Raquel Fagundo, Michael Lucero, Zachary Loughman</b> Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV
P51	Comparative study of the microanatomy of neotropical sclerosomatid harvestmen (Opiliones, Eupnoi)	<b>Andrea L. Slurff, Victor R. Townsend, Jr.</b> Department of Biology, Virginia Wesleyan College, Norfolk, VA
P52	Reproductive morphology of three species of neotropical harvestmen (Opiliones, Laniatores, Gonyleptoidea)	<b>Mary K. Bennett, Victor R. Townsend, Jr.</b> Department of Biology, Virginia Wesleyan College, Norfolk, VA
P53	Microanatomy of Neotropical cosmetid harvestmen	<b>Victor R. Townsend, Jr., Megan B. Johnson, Tara White</b> Department of Biology, Virginia Wesleyan College, Norfolk, VA
P54	Distribution and conservation status of four <i>Orconectes</i> crayfishes occurring in Virginia's Upper James and Maury River systems	<b>Michael Lucero<sup>1</sup>, Raquel Fagundo<sup>1</sup>, Stuart Welsh<sup>2</sup>, Zachary Loughman<sup>1</sup></b> <sup>1</sup> Department of Natural Sciences and Mathematics, West Liberty University, West Liberty, WV; <sup>2</sup> U.S. Geological Survey, West Virginia Cooperative Fish and Wildlife Research Unit, Morgantown, WV
P55	A preliminary attempt at estimating the founding population size of the invasive plataspid <i>Megacopta cribra</i> using Randomly Amplified Polymorphic DNA (RAPD) PCR	<b>Holland M. Hendrick, Devin L. Carter, C. Brian Odom</b> Department of Biology, Wingate University, Wingate, NC
P56	A preliminary approach using an entomopathogen as a biological control agent against <i>Megacopta cribraria</i> (Fabricius)	<b>Stephanie Simmons, Monica Henry, S. Luke Shelton, Erika Scocco</b> Department of Biology, Wingate University, Wingate NC
P57	<i>Ercolania manglephila</i> : a new species of limapontian ascoglossan (=sacoglossan) from the Florida Keys (Opisthobranchia: Ascoglossa: Limapontiidae)	<b>D. Gonsalves-Jackson, A. Slurff</b> Biology Department, Virginia Wesleyan College, Norfolk, VA

P58	Can they finish together? Development of a standard operating procedure for synchronization of a laboratory colony with two species of cactus-feeding moths (Lepidoptera: Pyralidae)	<b>Kassandra Riley, Anastasia M. Woodard, Travis D. Marsico</b> Department of Biological Sciences, Arkansas State University, State University, AR
P59	Antipredator adaptations of harvestmen from Trinidad, W. I.	<b>Michael K. Moore<sup>1</sup>, Victor Townsend, Jr.<sup>2</sup></b> <sup>1</sup> Department of Biology, Mercer University, Macon, GA <sup>2</sup> Department of Biology, Virginia Wesleyan College, Norfolk, VA
P60	Cardiovascular responses to graded exercise in the Atlantic blue crab, <i>Callinectes sapidus</i> .	<b>Shana Hensley, Darwin Jorgensen</b> Department of Biology, Roanoke College, Salem, VA
P61	Effects of time of day, temperature, and humidity on <i>Atta cephalotes</i>	<b>Jordan Holman</b> Fairland High School, Proctorville OH
P62	Daily and seasonal weight fluctuations in a honeybee colony ( <i>Apis mellifera</i> )	<b>Donald Trisel, Caitlyn Jones-Staley</b> Department of Biology, Fairmont State University, Fairmont, WV
P63	Importance of pollen in the establishment of the red mite as a natural enemy in the biological control of scale insects, aphids and other plant pests	<b>Andrew E. Rosselot, Mary Clare Yerke, Andrew J. Jajack</b> Department of Biology, Wittenberg University, Springfield, OH
P64	Requirement for a dry habitat for proper development and hatching of larvae of the emerald ash borer based on the water relations of eggs	<b>Terrance J. Smith, Andrew J. Jajack, Andrew E. Rosselot</b> Department of Biology, Wittenberg University, Springfield, OH
P65	Using <i>Grammia nevadensis</i> to test the effects of resource allocation on growth and birth sex ratios	<b>Tamara Johnstone-Yellin<sup>1</sup>, Lisa Shipley<sup>2</sup></b> <sup>1</sup> Department of Biology, Bridgewater College, VA <sup>2</sup> School of the Environment, Washington State University, Pullman, WA
P66	Phylogenetic studies revealed the ancient history of the structure of ribonuclease P and the early origins of Archaea	<b>Fengjie Sun<sup>1</sup>, Gustavo Caetano-Anollés<sup>2</sup></b> <sup>1</sup> School of Science and Technology, Georgia Gwinnett College, Lawrenceville, GA <sup>2</sup> Department of Crop Sciences, University of Illinois at Urbana-Champaign, Urbana, IL
P67	Differing levels of genetic structure in stonefly ( <i>Doroneuria baumannii</i> ) populations within and outside the Great Basin, USA	<b>Kellie C. Fredette<sup>1</sup>, Steven M. Guthrie<sup>1</sup>, Andrew L. Sheldon<sup>2</sup>, Alicia S. Schultheis<sup>1</sup></b> <sup>1</sup> Department of Biology, Stetson University, DeLand, FL <sup>2</sup> Dept. of Biology, University of Montana, Missoula, MT

P68	Phylogeography and population differentiation of the stonewly <i>Hesperoperla pacifica</i> across mountain ranges in the Great Basin, USA	<b>Kimberly G Arnaldi<sup>1</sup>, Allyson M Fenwick<sup>1</sup>, Andrew L Sheldon<sup>2</sup>, Alicia S Schultheis<sup>1</sup></b> <sup>1</sup> Department of Biology, Stetson University, DeLand, FL <sup>2</sup> Department of Biology, University of Montana, Missoula, MT
P69	A genetically distinct population of three-lined salamanders, <i>Eurycea guttolineata</i> , in the Florida Parishes of Louisiana	<b>Nathaniel T Akers, Thomas W Cannon, Tamara L Walker</b> Department of Mathematics & Sciences, Nash Community College, Rocky Mount, NC
P70	The impact of the Apalachicola River as a phylogeographic barrier in <i>Pseudotriton ruber</i>	<b>LaShonda M. Caine, Chantia M. Stewart, David A. Beamer</b> Department of Mathematics & Sciences, Nash Community College, Rocky Mount, NC
P71	Diversification of seepage salamanders across a complex geologic landscape	<b>Jessica M. Avila<sup>1</sup>, LaShonda M. Caine<sup>1</sup>, David A. Beamer<sup>1</sup>, Sean P. Graham<sup>2</sup></b> <sup>1</sup> Department of Mathematics and Sciences, Nash Community College, Rocky Mount, NC <sup>2</sup> Department of Biology, The Pennsylvania State University, University Park, PA
P72	Morphological homoplasy within mountain Dusky Salamanders ( <i>Desmognathus</i> )	<b>Brenten L. Bottoms, Jessica M. Avila, David A. Beamer</b> Mathematics and Science Department, Nash Community College, Rocky Mount NC
P73	Preliminary phylogenetic investigation of <i>Ledum</i> (Labrador Tea, Ericaceae)	<b>Andrew Hart, Emily Gillespie</b> Department of Biological Sciences, Marshall University, Huntington, WV
P74	Distribution, dispersal and ecology of <i>Sphenoclea zeylanica</i> (Sphenocleaceae) in North America	<b>Richard Carter<sup>1</sup>, Jordan C. Jones<sup>2</sup></b> <sup>1</sup> Department of Biology, Valdosta State University, Valdosta, GA <sup>2</sup> U.S. Horticultural Research Laboratory, USDA-ARS, Fort Pierce, FL
P75	Vascular plant flora of the Lower Ogeechee River: Savannah-Ogeechee Canal Nature Center, Chatham County, Georgia	<b>Wendy B. Zomlefer, David E. Giannasi, Sabrina Y.S. Sewell</b> Department of Plant Biology, University of Georgia, Athens, GA
P76	Vascular plant survey of the Crawford Tree Farm, Marion County, WV	<b>Donald Trisel, Kassen Lloyd, Justin Hilliard, Josh VanOsdol</b> Department of Biology, Fairmont State University, Fairmont, WV
P77	A comparative study on the morphometry of epiphytic, terrestrial, and aquatic North American orchid seeds in relation to their water balance properties	<b>Caroline L. Matchett, Kevin M. Gribbins, Jay A. Yoder, Matthew H. Collier</b> Department of Biology, Wittenberg University, Springfield, OH

P78	An overview of the vascular flora of the Old Cahawba Forever Wild Tract (Dallas County, AL)	<b>T. Wayne Barger, Brian D. Holt</b> AL-DCNR, Natural Heritage Section, Montgomery, AL
P79	Developing a vegetation-based index of biotic integrity for assessing the ecological condition of wetlands in Kentucky	<b>Tanner M. Morris, John Ryan A. Polascik, David R. Brown</b> Department of Biological Sciences, Eastern Kentucky University, Richmond, KY
P80	A preliminary phylogeny of the endemic Hawaiian genus <i>Nototrichium</i> (Amaranthaceae)	<b>Krystal T. Payne<sup>1</sup>, Ross A. McCauley<sup>2</sup>, J. Christopher Havran<sup>1</sup></b> <sup>1</sup> Department of Biological Sciences, Campbell University, Buies Creek, NC <sup>2</sup> Department of Biology, Fort Lewis College, Durango, CO
P81	Improvement of digital herbarium specimens through image stitching	<b>Christopher R. Burkhart, Kari M. Harris, Travis D. Marsico</b> Department of Biological Sciences, Arkansas State University, State University, AR
P82	Using community-level physiological profiles to measure the impact of mining on microbial communities in West Virginia streams	<b>Dustin Spivey, Thomas Ford</b> Department of Biology, Concord University, Athens, WV
P83	Functional diversity of microbial communities in streams impaired and unimpaired by fecal coliform contamination	<b>Hillary Shupe, Thomas Ford</b> Department of Biology, Concord University, Athens, WV
P84	Habitat use and swimming behavior of longnose dace ( <i>Rhinichthys cataractae</i> ) from a mercury contaminated river	<b>Kimberly J. Bolyard, Joelle E. Bennett</b> Department of Biology, Bridgewater College, Bridgewater, Virginia
P85	The influence of rock vane remediation on local macroinvertebrate community structure in Shades Creek, Jefferson County, AL	<b>Tricia Rea, Elizabeth G. Dobbins, Kristin A. Bakkegard, Christopher Graben</b> Department of Biological and Environmental Sciences, Samford University, Birmingham, AL
P86	Effects of light availability and temperature on northwest Tennessee stream diatom community structure	<b>Victoria Templeton, Vance Pounders, Jennifer Greenwood</b> Department of Biological Sciences, University of Tennessee at Martin, Martin, TN
P87	Herpetological survey of Turtle Pond, NASJAX, Jacksonville, Florida with a comparison of turtle trapping methods	<b>John Enz, Ashley Briddell, Danielle D'Amato, Vincent Domena, Alissa Gilmer</b> Department of Biology & Marine Science, Jacksonville University, Jacksonville, FL

P88	Diet and feeding habits of the eastern mosquitofish <i>Gambusia holbrooki</i> foraging among macrophytes	<b>Julia Love, Marielle Kromis, Daniel Rhiner, Marjan Mirkheshti, Joseph M. Dirnberger</b> Department of Biology and Physics, Kennesaw State University, Kennesaw, GA
P89	A comparison of trophic relationships between urbanized and non-urbanized streams based on natural abundances of stable isotopes	<b>Jonathan Howlette, Troy Mutchler, William Ensign</b> Department of Biology, Kennesaw State University, Kennesaw, GA
P90	The influence of substrate heterogeneity on benthic macroinvertebrate diversity in Choccolocco Creek, Alabama	<b>Holly J. Allen<sup>1</sup>, Lori Tolley-Jordan<sup>2</sup></b> <sup>1</sup> Department of Math and Natural Sciences, Jackson State Community College, Jackson, TN; <sup>2</sup> Department of Biology, Jacksonville State University, Jacksonville, AL
P91	Analysis of continental shelf meiofauna in the northern Gulf of Mexico: Effects of the Deepwater Horizon oil spill investigated during a long term community study (2007-present)	<b>Stephen C. Landers<sup>1</sup>, Kewei Yu<sup>1</sup>, Martin Sorensen<sup>2</sup></b> <sup>1</sup> Troy University; <sup>2</sup> Natural History Museum of Denmark
P92	Subthreshold toxic effects of the herbicide Atrazine on learning and behavior in <i>Procambarus clarkii</i>	<b>Carol B. Starkey, Katherine E. Forester, Brian L. Antonsen</b> Department of Biology, Marshall University, Huntington, WV
P93	Assessment of cyanobacteria and diatom occurrence in five tributaries of Lake Lanier: An ongoing study	<b>Kyle A Hriczo, Melba Horton, Robert Fuller</b> Department of Biology, University of North Georgia, Dahlonega, GA
P94	A comparison of aquatic macroinvertebrates in streams across the Americas: Georgia, Costa Rica, and Buenaventura-Colombia	<b>Jose Orlay Castano, Mark Andrew Schlueter</b> Georgia Gwinnett College, Lawrenceville, GA
P95	Variation in diversity of woody riparian vegetation and canopy cover among urban and rural streams in the South Carolina Piedmont	<b>Katherine B. Murray, Gregory P. Lewis, Abbie T. Motes</b> Department of Biology, Furman University, Greenville, SC
P96	The effects of UV-B on <i>Diaphanosoma brachyurum</i> survival and egg production in Mountain Lake, Virginia	<b>Dylan R. Malpass, Sandra L. Cook</b> High Point University, High Point, NC
P97	The impact of a stream restoration project on condition factor and food habits of Bluegill Sunfish ( <i>Lepomis macrochirus</i> )	<b>Tessa N. Stephens, Tom 'Bone' Blanchard</b> Department of Biological Sciences, University of Tennessee at Martin, Martin, TN

P98	Baseline screening of amphibians on the Mountain Longleaf NWR for <i>Batrachochytrium dendrobatidis</i>	<b>Richard Watkins<sup>1</sup>, Mark Meade<sup>1</sup>, Chester Figiel Jr<sup>2</sup>, Gregory Scull<sup>2</sup></b> <sup>1</sup> Department of Biology, Jacksonville State University, Jacksonville Alabama <sup>2</sup> USFW Warm Springs Fish Technology Center, Warm Springs, Georgia
P99	Bacteriological assessment of Reedy River Falls Park and its surrounding watershed	<b>Erika Jansen, Brent Anderson, Min-Ken Liao</b> Department of Biology, Furman University, Greenville, SC
P100	An analysis of differentially expressed genes in the context of cochlear malfunction in Charcot-Marie Tooth Syndrome	<b>Manuel Bernal Mejia, William R. Bolus, Tonya A. Carver, Margaret J. Kovach</b> Department of Biological and Environmental Sciences, University of Tennessee at Chattanooga, TN
P101	A continued effort to understand the role of Peripheral Myelin Protein 22 (PMP22) and other genes of interest in the development of sensorineural deafness	<b>Emma Cosette Hall, Tonya A. Carver, Margaret J. Kovach</b> Department of Biological and Environmental Sciences, University of Tennessee at Chattanooga, TN
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<sup>1</sup>Department of Public Health, Campbell University, Buies Creek, NC  
<sup>2</sup>Department of Biological Sciences, Campbell University, Buies Creek, NC

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<sup>1</sup>Department of Biology, Southern Adventist University, Collegedale, TN  
<sup>2</sup>Organipharm, LLC, Chandler, NC

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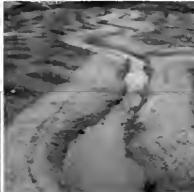
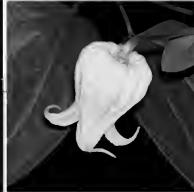
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Please keep in mind that recipients of ASB awards must be present at the annual ASB banquet to receive the award. Therefore, all applicants for ASB awards must attend the banquet to insure the presence of the winners.

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All applicants for ASB research awards must be ASB members in good standing, and be duly registered for the annual meeting. If necessary, check with the Treasurer for verification before you apply.

Please make sure your membership status is up-to-date amply before the deadline for abstract submission and for annual meeting registration. Please be aware that mailing a check or money order for membership renewal to the treasurer and then trying to register online or by mail for the annual meeting on the same day does not work. Moreover, trying to pay for membership renewal online in tandem with registering for the annual meeting online does not work well either.

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Besides sending abstracts of papers and posters to the Program Committee by February 1, 2013, anyone wishing to be considered for an award must send an abstract to the respective award committee chairperson in order to be considered. An abstract must be sent to the chairperson by February 1, 2013.

#### **Preliminary Presentation Instructions**

**Oral presentations** are allotted 15 minutes and must be in PowerPoint format on a USB memory drive. **Posters** should fit in a 46" x 46" space and will be displayed for an entire day (Thursday or Friday). Presenters should be prepared to stand with their posters for a designated one-hour period.

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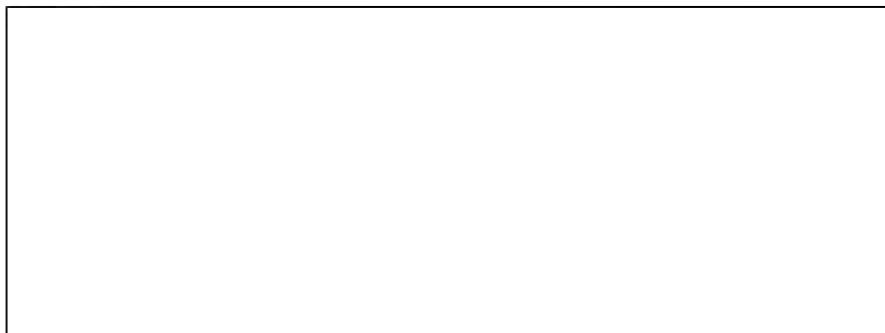
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# Southeastern Naturalist

Volume 12, 2013 No. 1

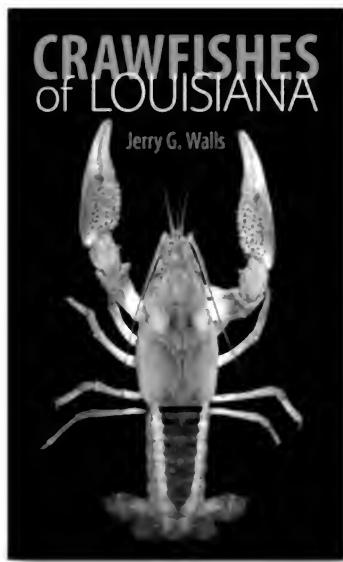
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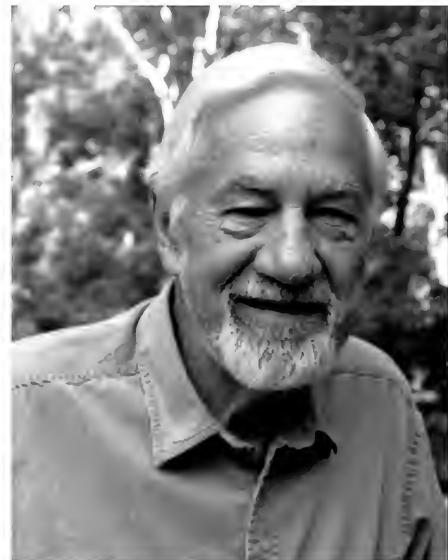
As stated in their newsletter *Across Our Mountains*, SAFC is an organization dedicated to "working together to protect and restore southern Appalachian forests."

More information about SAFC may be obtained from their web site at <http://www.safc.org>, and by e-mail at [safc@safc.org](mailto:safc@safc.org). The mailing address is Southern Appalachian Forest Coalition, 46 Haywood Street, Suite 323, Asheville, North Carolina 28801-2838. The telephone number is (828) 252-9223.<sup>cs</sup>

## OBITUARY

### C. Ritchie Bell 1921 – 2013

C. Ritchie Bell, longtime resident of Chapel Hill, passed away March 6, 2013 at 91 after a long illness. Ritchie was born April 10, 1921 in Cincinnati, OH and grew up in Asheville, NC. He served in the Army Air force as a B25 pilot with 61 missions based in Italy and Burma. He received his AB in 1947 (Class of 1945) and his MA in Botany in 1949 at UNC-CH, and his PhD in Botany at UC-Berkeley in 1953. After teaching for two years at the University of Illinois, he came back to UNC-CH as an Assistant Professor in Botany in 1955 where he remained until his retirement from teaching in 1991. He helped establish the North Carolina Botanical Garden and was the founding Director (1961-1986). Ritchie co-authored the "Vascular Flora of the Carolinas," and the popular "Wild Flowers of North Carolina" with William C. Justice, both published by UNC Press in 1968. He also co-authored "Florida Wild Flowers and Roadside Plants" (1980), "Fall Color and Woodland Harvests of the Eastern Forests" (1990), and "Fall Color Finder" (1991) published by Laurel Hill Press. His awards among several include the Silver Seal Award from the National Council of Garden Clubs in 1979, the Flora Caroliniana Award from the NC Botanical Garden in 1999 and the Distinguished Alumnus Award from UNC-CH in 2007.



Ritchie is survived by his wife, Anne Lindsey; and his son, David Bell of Chapel Hill; his sister, Patricia Ramsey of Asheville; and his brother, W. David Bell of Macon, NC.

Ritchie was passionate about the native flora of North Carolina and the North Carolina Botanical Garden.

In lieu of flowers, the family asks that donations in Ritchie's memory be made to the North Carolina Botanical Garden — UNC — Chapel Hill (919) 962-0522. Specific fund suggestions include The Children's Garden, the UNC Herbarium, and the Unrestricted Fund.

The memorial gathering for Ritchie will be in the Reeves Auditorium at the North Carolina Botanical Garden at 11:00 A.M. April 10, 2013.

*Published by Florence Chan Poyner, March 12, 2013 in The News and Observer,  
215 South McDowell Street, Raleigh, NC 27602. Ⓜ*

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